HP G7000 Notebook PC and Compaq Presario C700 Notebook PC

Maintenance and Service Guide

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Safety warning notice

⚠ **WARNING!** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

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1 Product description

Category	Description	HP G7000 Notebook PC	Compaq Presario C700 Notebook PC
Product Name	**HP G7000 Notebook PC**	√	
	Compaq Presario C700 Notebook PC		√
Processors	**Intel® Core™ 2 Duo processors**		
	T8300 2.40-GHz processor, 3-MB L2 cache, 800-MHz FSB	√	√
	T8100 2.10-GHz processor, 3-MB L2 cache, 800-MHz FSB	√	√
	T7250 2.00-GHz processor, 2-MB L2 cache, 800-MHz front side bus (FSB)	√	√
	T7100 1.80-GHz processor, 2-MB L2 cache, 800-MHz FSB	√	√
	Intel Core Duo processors		
	T5750 2.00-GHz processor, 2-MB L2 cache, 667-MHz FSB	√	√
	T5450 1.67-GHz processor, 2-MB L2 cache, 667-MHz FSB	√	√
	T2370 1.73-GHz processor, 1-MB L2 cache, 667-MHz FSB	√	√
	T2330 1.60-GHz processor, 1-MB L2 cache, 667-MHz FSB	√	√
	T2310 1.46-GHz processor, 1-MB L2 cache, 667-MHz FSB	√	√
	Intel Celeron® M processors		
	550 2.00-GHz processor, 1-MB L2 cache, 533-MHz FSB	√	√
	540 1.86-GHz processor, 1-MB L2 cache, 533-MHz FSB	√	√
	530 1.73-GHz processor, 1-MB L2 cache, 533-MHz FSB	√	√
Chipset	Northbridge: Intel GM965	√	
	Northbridge: GL960	√	√

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Category	Description	HP G7000 Notebook PC	Compaq Presario C700 Notebook PC
	Southbridge: Intel ICH8m	√	√
Graphics	Universal memory architecture (UMA) • Up to 64-MB of graphics subsystem memory on computer models with 512-MB system RAM • Up to 128-MB of graphics subsystem memory on computer models with 1024-MB or more system RAM • Up to 256-MB of graphics subsystem memory on computer models with 1024-MB or more system RAM Memory size change is dynamic.	√	√
Panel	15.4-inch, WSXGA with BrightView	√	√
Memory	2 SODIMM slots	√	√
	Customer-accessible/upgradable	√	√
	Supports up to 2 GB of system RAM	√	√
	DDRII PC2-5300 (667-MHz)	√	√
	Support for: • 1024 (1024 × 1, 512 × 2) • 512 (512 × 1, 256 × 2) • 256 (256 × 1)	√	√
Hard drives	Support for 9.5-mm, 2.5-inch hard drives	√	√
	Serial ATA	√	√
	Support for the following drives: • 160-GB, 5400-rpm • 120-GB, 5400-rpm • 80-GB, 5400-rpm	√	√
Optical drives	Fixed (removal of 1 screw required)	√	√
	Parallel ATA	√	√
	12.7-mm tray load	√	√
	Support for: • DVD±RW and CD-RW Super Multi Double-Layer Combo Drive with LightScribe • DVD±RW and CD-RW Super Multi Double-Layer Combo Drive • DVD-CD/RW Combo Drive	√	√

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Category	Description	HP G7000 Notebook PC	Compaq Presario C700 Notebook PC
Diskette drive	Support for external USB drive only	√	√
Camera	Low-light, VGA camera	√	√
	Fixed (no tilt)	√	√
	640 × 480 by 20 frames per second	√	√
Microphone	One omnidirectional monoaural microphone	√	√
Audio	Azalia high-definition (HD) audio	√	√
	HP-branded Altec Lansing speakers	√	
	Presario-branded Altec Lansing speakers		√
Modem	56K V.92 data/fax modem	√	√
Ethernet	Integrated 10/100 network interface card (NIC)	√	√
	Ethernet cable not included	√	√
Wireless	**Integrated wireless local area network (WLAN) options by way of wireless module:**		
	Intel PRO Wireless 3945 802.11a/b/g and 802.11b/g	√	√
	Broadcom 802.11a/b/g	√	√
	Atheros AR2425 WLAN b/g	√	√
	Support for 2.4- and 5.0-GHz antenna integrated into the display assembly	√	√
External media card	Digital Media Slot, supports SD, MMC, MS, MSP, SD I/O, xD Type H, and xD Type M	√	√
	Support for miniature versions of SD, MMC, MS Duo with adapter (adapter is not included)	√	√
Ports	Audio-in (mono microphone)	√	√
	Audio-out (stereo headphone)	√	√
	RJ-11 (modem)	√	√
	RJ-45 (Ethernet, includes link and activity lights)	√	√
	S-Video-out (include component video support)	√	√
	USB (3)	√	√
	VGA (Dsub, 15-pin) supporting 1600 × 1200 external resolution @ 75Hz, hot plug/unplug, and autodetect for correct output to wide-aspect vs. standard-aspect video	√	√
	2-pin, 65-W AC power	√	√
Docking	No docking	√	√

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Category	Description	HP G7000 Notebook PC	Compaq Presario C700 Notebook PC
Keyboard/pointing devices	12.0-inch keyboard	√	√
	TouchPad	√	√
	2 rubber dome TouchPad buttons with scissor structure	√	√
	4-way scroll	√	√
	Taps enabled as default	√	√
Power requirements	6-cell 2.20-Ah Li-ion battery	√	√
	65-W AC adapter with localized cable plug support (2-wire plug with ground pin, supports 2-pin DC connector)	√	√
Security	Security cable slot	√	√
Operating system	**Preinstalled:**		
	Free DOS	√	√
	Windows Vista® Home Basic (32-bit)	√	√
	Windows Vista Premium (32-bit)	√	√
Serviceability	**End-user replaceable parts:**		
	AC adapter	√	√
	Battery (system)	√	√
	Hard drive	√	√
	Memory module	√	√
	Optical drive	√	√
	WLAN module	√	√

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2 External component identification

Top components

Display components

Item	Component	Description
(1)	Internal display switch	Turns off the display if the display is closed while the computer is turned on.
(2)	Integrated camera light (select models only)	On: The integrated camera is in use.
(3)	Integrated camera (select models only)	Records video and captures still photographs.
(4)	Internal microphone	Records sound. **NOTE:** If there is a microphone icon next to each microphone opening, the computer has internal microphones.

*To see wireless regulatory notices, refer to the section of the **Regulatory, Safety and Environmental Notices** that applies to your country or region. These notices are located in Help and Support.

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Buttons and speakers

Item	Component	Description
(1)	Speakers (2)	Produce sound.
(2)	Wireless button	Turns the wireless feature on or off, but does not create a wireless connection. **NOTE:** To establish a wireless connection, a wireless network must already be set up.
(3)	Power button*	• When the computer is off, press the button to turn on the computer. • When the computer is on, press the button to initiate Sleep. • When the computer is in the Sleep state, press the button briefly to exit Sleep. • When the computer is in Hibernation, press the button briefly to exit Hibernation. If the computer has stopped responding and Windows® shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer. To learn more about power settings, select **Start > Control Panel > System and Maintenance > Power Options**.
(4)	Volume mute hotkey	Press fn+home to mute and restore speaker sound.
(5)	Volume up hotkey	Press fn+pg up to increase speaker volume.
(6)	Volume down hotkey	Press fn+pg dn to decrease speaker volume.

*This table describes factory settings. For information about changing factory settings, refer to the user guides located in Help and Support.

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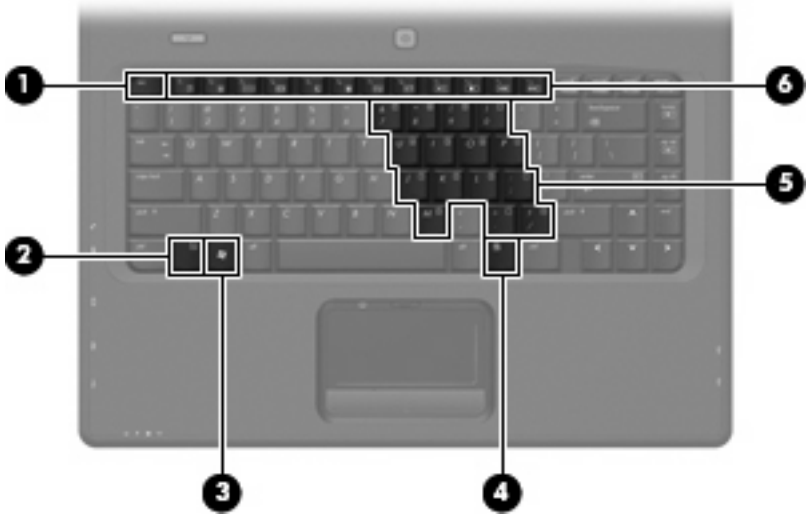
Keys



Item	Component	Function
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key or the esc key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)	Embedded numeric keypad keys	Can be used like the keys on an external numeric keypad.
(6)	Function keys	Execute frequently used system functions when pressed in combination with the fn key.

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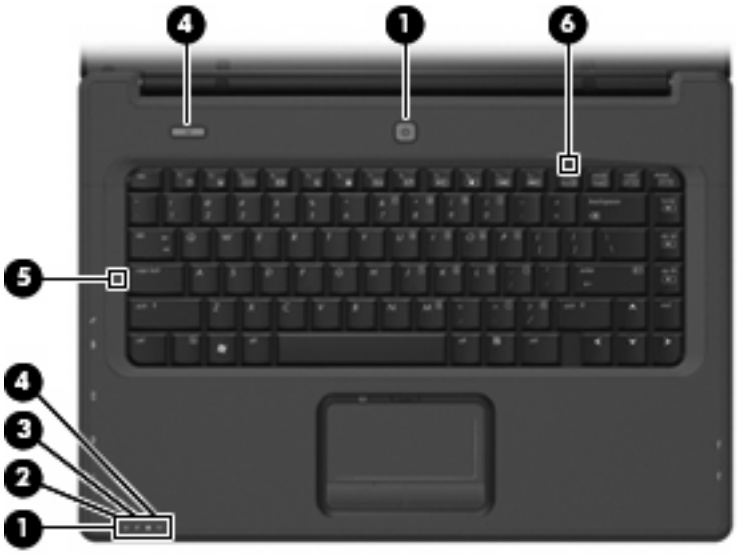
Lights



Item	Component	Description
(1)	Power lights (2)*	• On: The computer is on. • Blinking: The computer is in the Sleep state. • Off: The computer is off or in Hibernation.
(2)	Battery light	• On: A battery is charging. • Blinking: A battery that is the only available power source has reached a low battery level or a critical battery level. • Off: If the computer is plugged into an external power source, the light is turned off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(3)	Drive light	Blinking: The hard drive or optical drive is being accessed.
(4)	Wireless lights (2)†	• Blue: An integrated wireless device, such as a WLAN device, is turned on. • Amber: An integrated wireless device is turned off.
(5)	Caps lock light	On: Caps lock is on.
(6)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.

*The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.

†The 2 wireless lights display the same information. The light on the wireless button is visible only when the computer is open. The wireless light on the front of the computer is visible whether the computer is open or closed.

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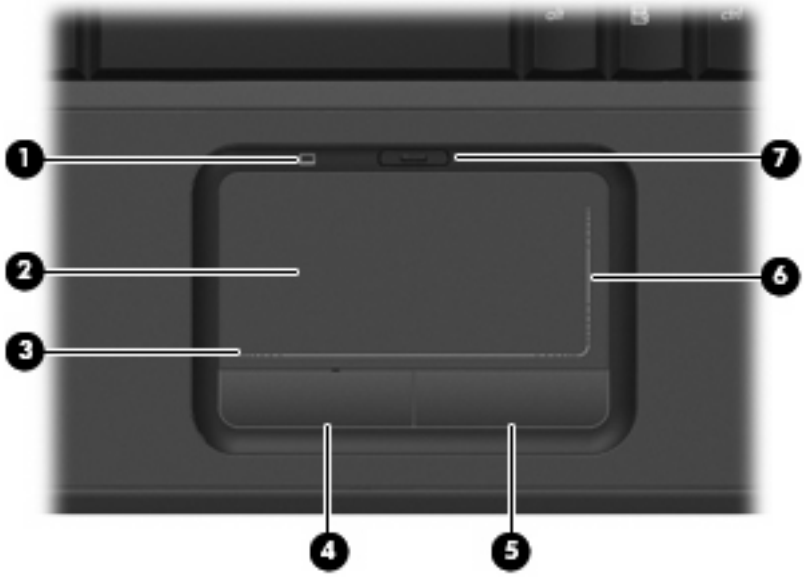
TouchPad



Item	Component	Function
(1)	TouchPad light	• Blue: TouchPad is enabled. • Amber: TouchPad is disabled.
(2)	TouchPad*	Moves the pointer and selects or activates items on the screen.
(3)	TouchPad horizontal scroll zone*	Scrolls left or right.
(4)	Left TouchPad button*	Functions like the left button on an external mouse.
(5)	Right TouchPad button*	Functions like the right button on an external mouse.
(6)	TouchPad vertical scroll zone*	Scrolls up or down.
(7)	TouchPad on/off button	Enables/disables the TouchPad.

*This table describes factory settings. To view or change pointing device preferences, select **Start > Control Panel > Hardware and Sound > Mouse**.

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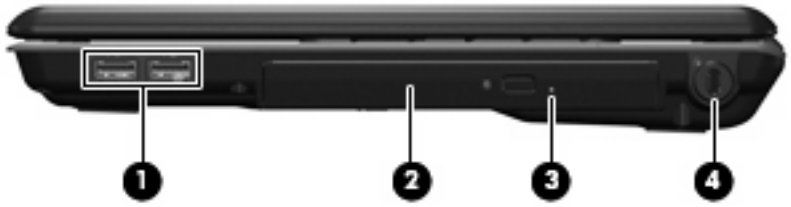
Front components

Item	Component	Function
(1)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
(2)	Audio-in (microphone)	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.

Right-side components



Item	Component	Function
(1)	USB ports	Connect optional USB devices.
(2)	Optical drive	Reads optical discs, and, on select models, also writes to optical discs.
(3)	Optical drive light	On: The optical drive is being accessed.
(4)	Security cable slot	Attaches an optional security cable to the computer. **NOTE:** The security cable is designed to act as a deterrent, but may not prevent the computer from being mishandled or stolen.

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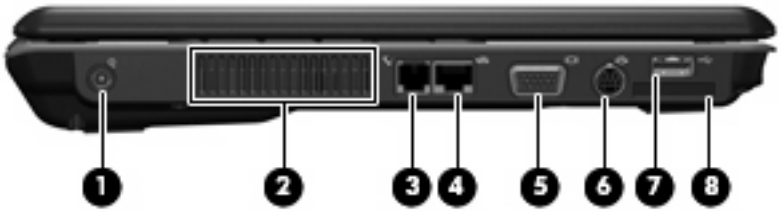
Left-side components



Item	Component	Function
(1)	Power connector	Connects an AC adapter.
(2)	Vents (4)	Enable airflow to cool internal components. **NOTE:** The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(3)	RJ-11 (modem) jack	Connects a modem cable.
(4)	RJ-45 (network) jack	Connects a network cable.
(5)	External monitor port	Connects an external VGA monitor or projector.
(6)	S-Video-out jack	Connects an optional S-Video device such as a television, VCR, camcorder, overhead projector, or video capture card.
(7)	USB port	Connects optional USB devices.
(8)	Digital Media Slot	Supports the following optional digital card formats: • Memory Stick (MS) • Memory Stick Pro (MSP) • MultiMediaCard (MMC) • Secure Digital Input/Output (SD I/O) • Secure Digital (SD) Memory Card • xDPicture Card (XD) • xD-Picture Card (XD) Type H • xD-Picture Card (XD) Type M

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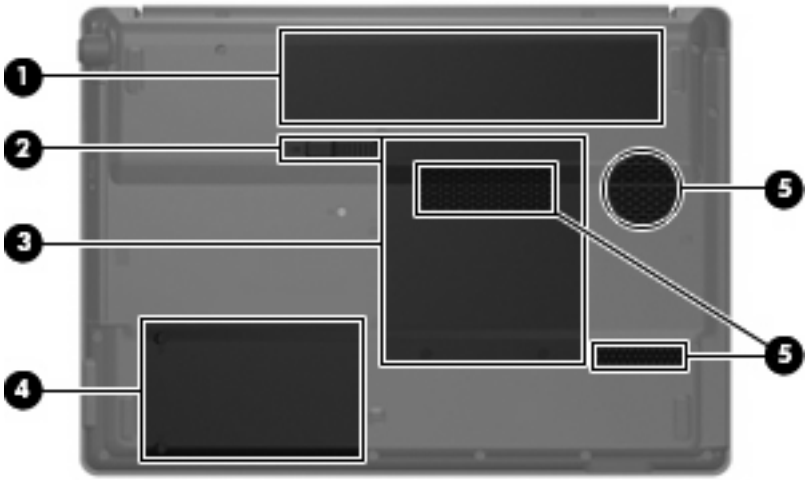
Bottom components



Item	Component	Function
(1)	Battery bay	Holds the battery.
(2)	Battery release latch	Releases the battery from the battery bay.
(3)	Memory/wireless module compartment	Contains 2 memory slots and a wireless module slot. **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.
(4)	Hard drive bay	Holds the hard drive.
(5)	Vents (3)	Enable airflow to cool internal components. **NOTE:** The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.

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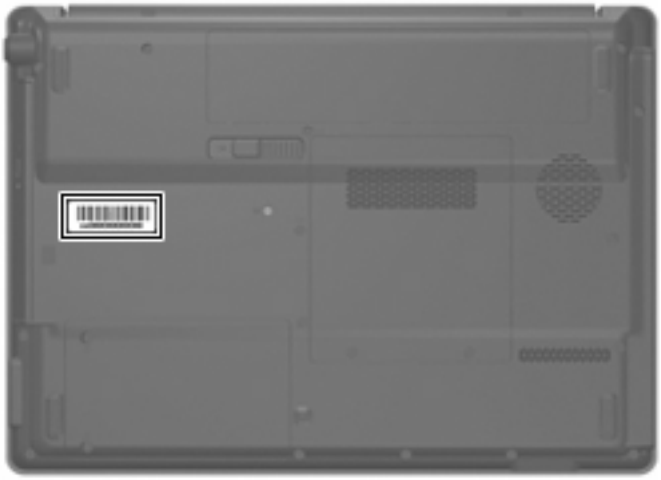
3 Illustrated parts catalog

Serial number location

When ordering parts or requesting information, provide the computer serial number and model number located on the bottom of the computer.



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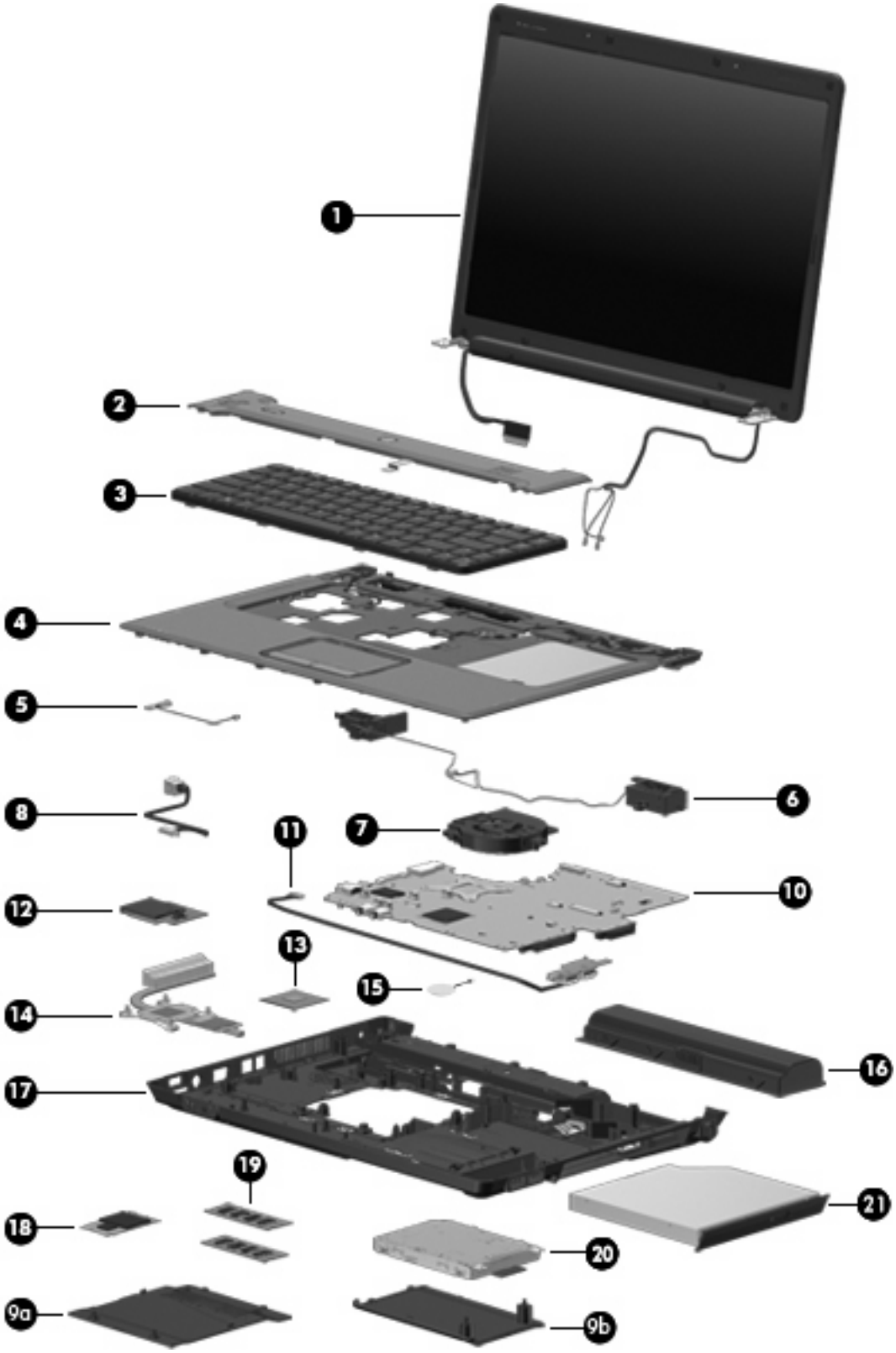
Computer major components



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Item	Description	Spare part number
(1)	**15.4-inch, WSXGA BrightView display assemblies** (include 2 microphones and 2 wireless antenna transceivers and cables)	
	For use only with HP G7000 computer models:	
	• Without a Web camera	454932-001
	• With a Web camera	462455-001
	For use only with Compaq Presario C700 computer models:	
	• Without a Web camera	454934-001
	• With a Web camera	462456-001
(2)	**Switch cover** (includes power button board and cable, wireless button board and cable, and numeric lock LED board and cable)	454940-001
(3)	**Keyboards**	
	Belgium	454954-A41
	Brazil	454954-201
	Czechoslovakia	454954-221
	Denmark, Finland, Norway, and Sweden	454954-DH1
	France	454954-051
	French Canada	454954-121
	Germany	454954-041
	Greece	454954-151
	Israel	454954-BB1
	Italy	454954-061
	Japan	454954-291
	Latin America	454954-161
	The Netherlands and Europe	454954-B31
	Portugal	454954-131
	Russia	454954-251
	Saudi Arabia	454954-171
	South Korea	454954-AD1
	Spain	454954-071
	Switzerland	454954-BG1
	Taiwan	454954-AB1
	Thailand	454954-281
	Turkey	454954-141
	The United Kingdom	454954-031
	The United States	454954-001

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Item	Description	Spare part number
(4)	**Top cover** (includes TouchPad and cable)	
	For use only in computer models not equipped with a Web camera	454936-001
	For use only in computer models equipped with a Web camera	466649-001
(5)	**Caps lock LED board** (includes cable)	454948-001
(6)	**Speakers**	454946-001
(7)	**Fan**	454944-001
(8)	**Power connector cable**	454945-001
	Plastics Kit (see Plastics Kit on page 22 for more information)	454937-001
(9a)	**Hard drive bay cover**	
(9b)	**Memory/wireless module compartment cover**	
(10)	**System boards** (include replacement thermal material and modem cable)	
	For use in computer models not equipped with a Web camera:	
	• Equipped with Intel Core 2 Duo and Core Duo processors and a card reader board	453494-001
	• Equipped with Intel Core 2 Duo and Core Duo processors, but not a card reader board	445882-001
	• Equipped with Intel Celeron M processors and a card reader board	453495-001
	• Equipped with Intel Celeron M processors, but not a card reader board	454883-001
	For use in computer models equipped with a Web camera:	
	• Equipped with Intel Core 2 Duo and Core Duo processors and a card reader board	462439-001
	• Equipped with Intel Core 2 Duo and Core Duo processors, but not a card reader board	462441-001
	• Equipped with Intel Celeron M processors and a card reader board	462440-001
	• Equipped with Intel Celeron M processors, but not a card reader board	462442-001
	Modem cable (not illustrated)	454950-001
(11)	**USB board** (includes cable)	454941-001
(12)	**Card reader board** (for use only with system boards with spare part numbers 453494-001, 453495-001, 462439-001, and 462440-001)	454949-001
(13)	**Processors** (include replacement thermal material)	
	Intel Core 2 Duo T8300 (2.40-GHz, 3 MB of L2 cache, 800-MHz FSB)	459798-001
	Intel Core 2 Duo T8100 (2.10-GHz, 3 MB of L2 cache, 800-MHz FSB)	459797-001
	Intel Core 2 Duo T7250 (2.00-GHz, 2 MB of L2 cache, 800-MHz FSB)	454320-001
	Intel Core 2 Duo T7100 (1.80-GHz, 2 MB of L2 cache, 800-MHz FSB)	448149-001
	Intel Core Duo T5750 (2.00-GHz, 2 MB of L2 cache, 667-MHz FSB)	462353-001
	Intel Core Duo T5450 (1.67-GHz, 2 MB of L2 cache, 667-MHz FSB)	451597-001
	Intel Core Duo T2370 (1.73-GHz, 1 MB of L2 cache, 667-MHz FSB)	462354-001
	Intel Core Duo T2330 (1.60-GHz, 1 MB of L2 cache, 667-MHz FSB)	455944-001

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Item	Description	Spare part number
	Intel Core Duo T2310 (1.46-GHz, 1 MB of L2 cache, 667-MHz FSB)	455943-001
	Intel Celeron M 550 (2.00-GHz, 1 MB of L2 cache, 533-MHz FSB)	454322-001
	Intel Celeron M 540 (1.86-GHz, 1 MB of L2 cache, 533-MHz FSB)	454321-001
	Intel Celeron M 530 (1.73-GHz, 1 MB of L2 cache, 533-MHz FSB)	455437-001
(14)	**Heat sink** (includes thermal material)	454943-001
(15)	**RTC battery**	454947-001
(16)	**6-cell, 2.20-Ah, 47-Wh Li-ion battery**	454931-001
(17)	**Base enclosures** (includes 6 base rubber feet)	
	For use only with computer models equipped with a card reader board	454939-001
	For use only with computer models not equipped with a card reader board	454938-001
	Rubber Foot Kit (includes 6 base enclosure rubber feet)	454952-001
(18)	**WLAN modules**	
	Broadcom 802.11a/b/g WLAN modules:	
	• For use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam	441075-001
	• For use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan	441075-002
	• For use in Ecuador, Haiti, Honduras, Pakistan, the People's Republic of China, Peru, Qatar, South Korea, Uruguay, and Venezuela	441075-291
	Intel 802.11a/b/g WLAN modules:	
	• For use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam	451861-001
	• For use in Austria, Azerbaijan, Bahrain, Belgium, Brazil, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Qatar, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and Uzbekistan	451861-002
	• For use in Australia, New Zealand, Pakistan, the People's Republic of China, and South Korea	451861-003
	• For use in Japan	451861-291
	Broadcom 802.11b/g WLAN modules:	

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Item	Description	Spare part number
	• For use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam	441090-001
	• For use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan	441090-002
	• For use in Ecuador, Haiti, Honduras, Pakistan, the People's Republic of China, Peru, Qatar, South Korea, Uruguay, and Venezuela	441090-291
	Broadcom 802.11b/g WLAN module for use in Thailand	451861-004
	Atheros AR2425 802.11b/g WLAN module:	
	• For use in Albania, Algeria, Andorra, Angola, Antigua & Barbuda, Afghanistan, Syria, Nether Antilles, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia & Herzegovina, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, Czech Republic, Zaire, Denmark, Djibouti, Dominica, Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, South Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Martinique, Guadeloupe, Bermuda, French Guiana, Aruba, British Virgin Islands, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua, New Guinea, Paraguay, People's Republic of China, Peru, Philippines, Poland, Portugal, Qatar, Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome & Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Trinidad & Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe	459339-002
(19)	**Memory modules**	
	1024-MB (PC2-5300, 667-MHz, DDR2)	454922-001
	512-MB (PC2-5300, 667-MHz, DDR2)	454921-001
	256-MB (PC2-5300, 667-MHz, DDR2)	454920-001
(20)	**Hard drives** (includes bracket)	
	160-GB, 5400-rpm	454925-001
	120-GB, 5400-rpm	454924-001
	80-GB, 5400-rpm	454923-001
	Hard Drive Kit (not illustrated, includes hard drive bracket and screws)	454926-001

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Item	Description	Spare part number
(21)	**Optical drives** (include bezel and bracket)	
	DVD±RW and CD-RW Super Multi, Double-Layer Combo Drive with LightScribe	454929-001
	DVD±RW and CD-RW Super Multi, Double-Layer Combo Drive	454928-001
	DVD/CD-RW Combo Drive	454927-001
	Optical Drive Kit (not illustrated, includes bezel, bracket, and screws)	454930-001

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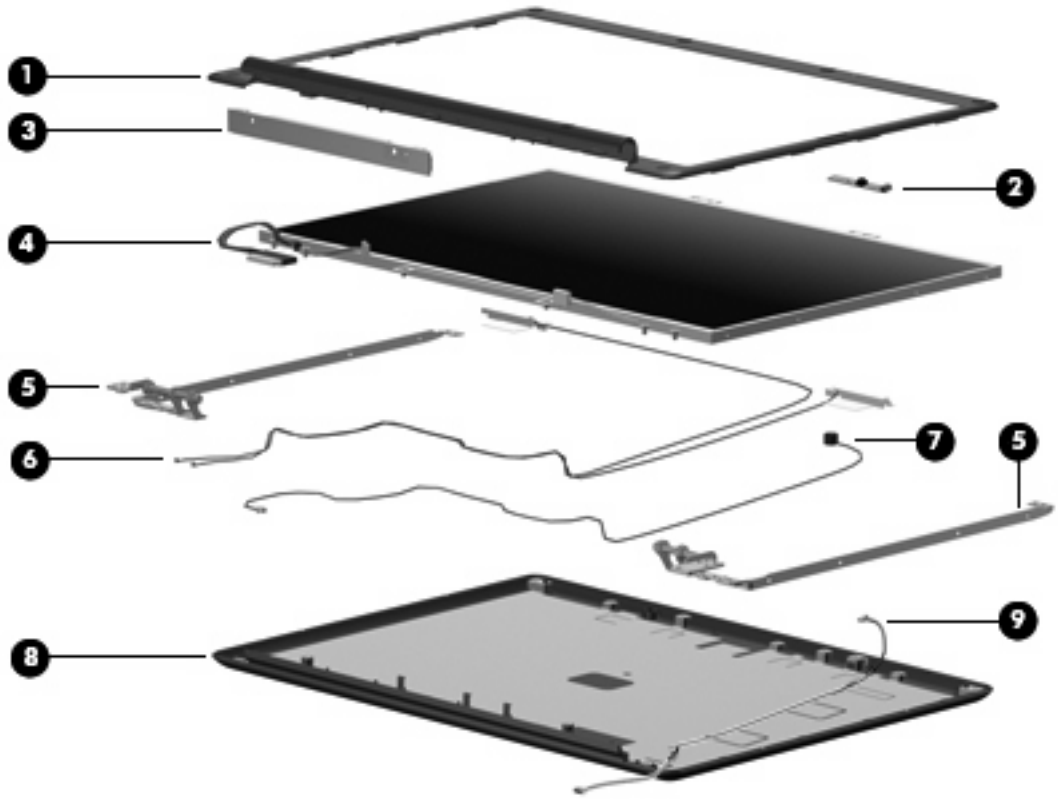
Display assembly components



Item	Description	Spare part number
(1)	**Display bezels**	
	For use only with HP G7000 computer models:	
	• Without a camera	454909-001
	• With a camera	462445-001
	For use only with Compaq Presario C700 computer models	
	• Without a camera	454910-001
	• With a camera	462446-001
(2)	**Camera module**	462448-001
(3)	**Display inverter** (includes Mylar shield)	454915-001
(4)	**15.4-inch, WSXGA + BrightView display panel** (includes display panel cable)	454323-001
(5)	**Display Hinge Kit** (includes left and right display hinges)	454916-001
(6)	**Wireless Antenna Kit** (includes 2 wireless antenna transceivers and cables)	454919-001
(7)	**Display Cable Kit** (includes microphone)	454919-001
(8)	**Display enclosures** (include 2 wireless antenna transceivers and cables)	
	For use only with HP G7000 computer models:	

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Item	Description	Spare part number
	• Without a camera	454911-001
	• With a camera	462443-001
	For use only with Compaq Presario C700 computer models:	
	• Without a camera	454913-001
	• With a camera	462444-001
(9)	**Camera module cable**	462447-001
	Display Rubber Kit (not illustrated; includes rubber screw covers)	454917-001
	Display Screw Kit (not illustrated)	454918-001
*	**LCD logo kit**	462457-001
*Not illustrated		

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Plastics Kit

Item	Description	Spare part number
	Plastics Kit	454937-001
(1)	Memory/wireless module compartment cover (includes 2 captive screws, secured by C-clips)	
(2)	Hard drive bay cover (includes 2 captive screws, secured by C-clips)	

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Mass storage devices

Item	Description	Spare part number
(1)	**Hard drives** (include bracket)	
	160-GB, 5400-rpm	454925-001
	120-GB, 5400-rpm	454924-001
	80-GB, 5400-rpm	454923-001
	Hard Drive Kit (not illustrated, includes hard drive bracket and screws)	454926-001
(2)	**Optical drives** (include bezel and bracket)	
	DVD±RW and CD-RW Super Multi, Double-Layer Combo Drive with LightScribe	454929-001
	DVD±RW and CD-RW Super Multi, Double-Layer Combo Drive	454928-001
	DVD/CD-RW Combo Drive	454927-001
	Optical Drive Kit (not illustrated, includes bezel, bracket, and screws)	454930-001

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Miscellaneous parts

Description	Spare part number
65-W PFC AC adapter	457685-001
ATSC/NTSC/PAL TV tuner	439130-001
ATSC/NTSC TV tuner antenna	439131-001
Composite audio and S-Video cable	407939-001
DVB-T tuner	412175-001
DVB-T antenna adapter	412176-001
Earbud headset	371693-003
HP backpack	405527-001
HP carrying case	418162-001
HP Remote Control	407313-001
Infrared emitter with cable	439129-001
Optical wired mouse	436238-001
RF input adapter cable (without ferrite)	407940-001
Windows Vista remote control (fits inside ExpressCard slot)	439128-001
Windows Vista remote control (does not fit inside ExpressCard slot)	439254-001
Wireless laser mouse (includes cable adapter)	430958-001
Power cords:	
Argentina	403811-D01
Australia and New Zealand	403811-011
Brazil	403811-201
Canada, French Canada, Latin America, Thailand, and the United States	403811-001
Denmark	403811-081
India	403811-D61
Israel	403811-BB1
Italy	403811-061
Japan	403811-291
The Netherlands and Europe	403811-B31
The People's Republic of China	403811-AA1
South Africa	403811-AR1
South Korea	403811-AD1
Switzerland	403811-111
Taiwan	403811-AB1

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Description	Spare part number
Hong Kong and the United Kingdom	403811-031
Screw Kit • Phillips PM3.0×3.0 screw • Phillips PM2.5×9.0 screw • Phillips PM2.5×7.0 screw • Phillips PM2.5×6.0 captive screw • Phillips PM2.5×4.0 screw • Phillips PM2.0×5.0 captive screw • Black Phillips PM2.0×4.0 screw • Silver Phillips PM2.0×4.0 screw	454951-001

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Sequential part number listing

Spare part number	Description
371693-003	Earbud headset
403811-001	Power cord for use in Canada, French Canada, Latin America, Thailand, and the United States
403811-011	Power cord for use in Australia and New Zealand
403811-031	Power cord for use in Hong Kong and the United Kingdom
403811-061	Power cord for use in Italy
403811-081	Power cord for use in Denmark
403811-111	Power cord for use in Switzerland
403811-201	Power cord for use in Brazil
403811-291	Power cord for use in Japan
403811-AA1	Power cord for use in the People's Republic of China
403811-AB1	Power cord for use in Taiwan
403811-AD1	Power cord for use in South Korea
403811-AR1	Power cord for use in South Africa
403811-B31	Power cord for use in the Netherlands
403811-BB1	Power cord for use in Israel
403811-D01	Power cord for use in Argentina
403811-D61	Power cord for use in India
405527-001	HP backpack
407313-001	HP Remote Control
407939-001	Composite audio and S-Video cable
407940-001	RF input adapter cable (without ferrite)
412175-001	DVB-T tuner
412176-001	DVB-T antenna adapter
418162-001	HP carrying case
430958-001	Wireless laser mouse (includes cable adapter)
436238-001	Optical wired mouse
439128-001	Windows Vista remote control (fits inside ExpressCard slot)
439129-001	Infrared emitter with cable
439130-001	ATSC/NTSC/PAL TV tuner
439131-001	ATSC/NTSC TV tuner antenna
439254-001	Windows Vista remote control (does not fit inside ExpressCard slot)

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Spare part number	Description
441075-001	Broadcom 802.11a/b/g WLAN module for use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam
441075-002	Broadcom 802.11a/b/g WLAN module for use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan
441075-291	Broadcom 802.11a/b/g WLAN module for use in Japan
441090-001	Broadcom 802.11b/g WLAN module for use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam
441090-002	Broadcom 802.11b/g WLAN module for use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan
441090-291	Broadcom 802.11b/g WLAN module for use in Japan
448149-001	Intel Core 2 Duo T7100 1.80-GHz processor (2 MB of L2 cache, 800-MHz FSB)
451597-001	Intel Core Duo T5450 1.67-GHz processor (2 MB of L2 cache, 667-MHz FSB)
451861-001	Intel 802.11a/b/g WLAN module for use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam
451861-002	Intel 802.11a/b/g WLAN module for use in Austria, Azerbaijan, Bahrain, Belgium, Brazil, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Qatar, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and Uzbekistan
451861-003	Intel 802.11a/b/g WLAN module for use in Australia, New Zealand, Pakistan, the People's Republic of China, and South Korea
451861-004	Intel 802.11a/b/g WLAN module for use in Thailand
451861-291	Intel 802.11a/b/g WLAN module for use in Japan
453494-001	System board for use only with computer models without a Web camera equipped with Intel Core 2 Duo and Core Duo processors and a card reader board
453495-001	System board for use only with computer models without a Web camera equipped with Intel Core 2 Duo and Core Duo processors, but not a card reader board
454320-001	Intel Core 2 Duo T7250 2.00-GHz processor (2 MB of L2 cache, 800-MHz FSB)
454321-001	Intel Celeron M 540 1.86-GHz processor (1 MB of L2 cache, 533-MHz FSB)
454322-001	Intel Celeron M 550 2.00-GHz processor (1 MB of L2 cache, 533-MHz FSB)
454323-001	15.4-inch, WSXGA + BrightView display panel (includes display panel cable)

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Spare part number	Description
454882-001	System board for use only with computer models without a camera module equipped with Intel Celeron M processors and a card reader board
454883-001	System board for use only with computer models without a Web camera equipped with Intel Celeron M processors, but not a card reader board
454909-001	Display bezel for use only with HP G7000 computer models without a Web camera
454910-001	Display bezel for use only with Compaq Presario C700 computer models without a camera
454911-001	Display enclosure for use only with HP G7000 computer models without a camera (includes 2 WLAN antenna transceivers and cables and microphone)
454913-001	Display enclosure for use only with Compaq Presario C700 computer models without a camera (includes 2 WLAN antenna transceivers and cables and microphone)
454915-001	Display inverter (includes Mylar shield)
454916-001	Display hinges
454917-001	Display Rubber Kit
454918-001	Display Screw Kit
454919-001	Display Cable Kit
454920-001	256-MB memory module (PC2-5300, 667-MHz, DDR2)
454921-001	512-MB memory module (PC2-5300, 667-MHz, DDR2)
454922-001	1024-MB memory module (PC2-5300, 667-MHz, DDR2)
454923-001	80-GB, 5400-rpm hard drive (includes bracket)
454924-001	120-GB, 5400-rpm hard drive (includes bracket)
454925-001	160-GB, 5400-rpm hard drive (includes bracket)
454926-001	Hard Drive Kit (includes hard drive bracket and screws)
454927-001	DVD/CD-RW Combo Drive
454928-001	DVD±RW and CD-RW Super Multi, Double-Layer Combo Drive
454929-001	DVD±RW and CD-RW Super Multi, Double-Layer Combo Drive with LightScribe
454930-001	Optical Drive Kit (includes bezel, bracket, and screws)
454931-001	6-cell, 2.2-Ah, 47-Wh battery
454932-001	15.4-inch, WSXGA + BrightView display assembly without a camera for use only with HP G7000 computer models
454934-001	15.4-inch, WSXGA + BrightView display assembly without a camera for use only with Compaq Presario C700 computer models
454936-001	Top cover for use only with computer models not equipped with a Web camera (includes TouchPad and cable)
454937-001	Plastics Kit (see Plastics Kit on page 22 for more information)
454938-001	Base enclosure for use only with computer models equipped with a card reader board
454939-001	Base enclosure for use only with computer models not equipped with a card reader board

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Spare part number	Description
454940-001	Switch cover (includes power button board and cable, wireless button board and cable, and numeric lock LED board and cable)
454941-001	USB board (includes cable)
454943-001	Heat sink (includes replacement thermal material)
454944-001	Fan
454945-001	Power connector cable
454946-001	Speakers
454947-001	RTC battery
454948-001	Caps lock LED board (includes cable)
454949-001	Card reader board
454950-001	Modem cable
454951-001	Screw Kit
454952-001	Rubber Foot Kit
454954-001	Keyboard for use in the United States
454954-031	Keyboard for use in the United Kingdom
454954-041	Keyboard for use in Germany
454954-051	Keyboard for use in France
454954-061	Keyboard for use in Italy
454954-071	Keyboard for use in Spain
454954-121	Keyboard for use in French Canada
454954-131	Keyboard for use in Portugal
454954-141	Keyboard for use in Turkey
454954-151	Keyboard for use in Greece
454954-161	Keyboard for use in Latin America
454954-171	Keyboard for use in Saudi Arabia
454954-201	Keyboard for use in Brazil
454954-221	Keyboard for use in Czechoslovakia
454954-251	Keyboard for use in Russia
454954-281	Keyboard for use in Thailand
454954-291	Keyboard for use in Japan
454954-A41	Keyboard for use in Belgium
454954-AB1	Keyboard for use in Taiwan
454954-AD1	Keyboard for use in South Korea
454954-B31	Keyboard for use in the Netherlands

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Spare part number	Description
454954-BB1	Keyboard for use in Israel
454954-BG1	Keyboard for use in Switzerland
454954-DH1	Keyboard for use in Denmark, Finland, Norway, and Sweden
455437-001	Intel Celeron M 530 1.73-GHz processor (1 MB of L2 cache, 533-MHz FSB)
455943-001	Intel Core Duo T2310 1.46-GHz processor (1 MB of L2 cache, 667-MHz FSB)
455944-001	Intel Core Duo T2330 1.60-GHz processor (1 MB of L2 cache, 667-MHz FSB)
457685-001	65-W AC adapter
459797-001	Intel Core Duo T8100 2.10-GHz processor, 3-MB L2 cache; includes thermal material
459798-001	Intel Core Duo T8300 2.40-GHz processor, 3-MB L2 cache; includes thermal material
459339-001	Atheros AR2425 802.11b/g WLAN module for use in Albania, Algeria, Andorra, Angola, Antigua & Barbuda, Afghanistan, Syria, Nether Antilles, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia & Herzegovina, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, Czech Republic, Zaire, Denmark, Djibouti, Dominica, Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, South Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Martinique, Guadeloupe, Bermuda, French Guiana, Aruba, British Virgin Islands, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua, New Guinea, Paraguay, People's Republic of China, Peru, Philippines, Poland, Portugal, Qatar, Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome & Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Trinidad & Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe
462353-001	Intel Dual Core T5750 2.00-GHz processor, 2-MB L2 cache; includes thermal material
462354-001	Intel Core Duo T2370 1.73-GHz processor (1 MB of L2 cache, 667-MHz FSB)
462439-001	System board for use only with computer models with a Web camera equipped with Intel Core 2 Duo and Core Duo processors and a card reader board
462440-001	System board for use only with computer models with a Web camera equipped with Intel Core 2 Duo and Core Duo processors, but not a card reader board
462441-001	System board for use only with computer models with a Web camera equipped with Intel Celeron M processors and a card reader board
462442-001	System board for use only with computer models with a Web camera equipped with Intel Celeron M processors, but not a card reader board
462443-001	Display enclosure for use only with HP G7000 computer models with a Web camera (includes 2 WLAN antenna transceivers and cables and microphone)
462444-001	Display enclosure for use only with Compaq Presario C700 computer models with a Web camera (includes 2 WLAN antenna transceivers and cables and microphone)
462445-001	Display bezel for use only with HP G7000 computer models with a Web camera

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Spare part number	Description
462446-001	Display bezel for use only with Compaq Presario C700 computer models with a Web camera
462447-001	Camera cable
462448-001	Camera module
462455-001	15.4-inch, WSXGA + BrightView display assembly with a Web camera for use only with HP G7000 computer models
462456-001	15.4-inch, WSXGA + BrightView display assembly with a Web camera for use only with Compaq Presario C700 computer models
462457-001	LCD logo kit
466649-001	Top cover for use only with computer models equipped with a Web camera (includes TouchPad and cable)

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4 Removal and replacement procedures

Preliminary replacement requirements

Tools required

You will need the following tools to complete the removal and replacement procedures:

- Flat-bladed screwdriver
- Magnetic screwdriver
- Phillips P0 and P1 screwdrivers

Service considerations

The following sections include some of the considerations that you must keep in mind during disassembly and assembly procedures.

NOTE: As you remove each subassembly from the computer, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic parts

Using excessive force during disassembly and reassembly can damage plastic parts. Use care when handling the plastic parts. Apply pressure only at the points designated in the maintenance instructions.

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Cables and connectors

△ **CAUTION:** When servicing the computer, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.

Cables must be handled with extreme care to avoid damage. Apply only the tension required to unseat or seat the cables during removal and insertion. Handle cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing cables. Be sure that cables are routed in such a way that they cannot be caught or snagged by parts being removed or replaced. Handle flex cables with extreme care; these cables tear easily.

Drive handling

△ **CAUTION:** Drives are fragile components that must be handled with care. To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

Before removing or inserting a hard drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

Before handling a drive, be sure that you are discharged of static electricity. While handling a drive, avoid touching the connector.

Before removing a diskette drive or optical drive, be sure that a diskette or disc is not in the drive and be sure that the optical drive tray is closed.

Handle drives on surfaces covered with at least one inch of shock-proof foam.

Avoid dropping drives from any height onto any surface.

After removing a hard drive, an optical drive, or a diskette drive, place it in a static-proof bag.

Avoid exposing a hard drive to products that have magnetic fields, such as monitors or speakers.

Avoid exposing a drive to temperature extremes or liquids.

If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging and label the package “FRAGILE.”

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Grounding guidelines

Electrostatic discharge damage

Electronic components are sensitive to electrostatic discharge (ESD). Circuitry design and structure determine the degree of sensitivity. Networks built into many integrated circuits provide some protection, but in many cases, ESD contains enough power to alter device parameters or melt silicon junctions.

A discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry. Even if the spark is neither felt nor heard, damage may have occurred.

An electronic device exposed to ESD may not be affected at all and can work perfectly throughout a normal cycle. Or the device may function normally for a while, then degrade in the internal layers, reducing its life expectancy.

△ **CAUTION:** To prevent damage to the computer when you are removing or installing internal components, observe these precautions:

Keep components in their electrostatic-safe containers until you area ready to install them.

Use nonmagnetic tools.

Before touching an electronic component, discharge static electricity by using the guidelines described in this section.

Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.

If you remove a component, place it in an electrostatic-safe container.

The following table shows how humidity affects the electrostatic voltage levels generated by different activities.

△ **CAUTION:** A product can be degraded by as little as 700 V.

Typical electrostatic voltage levels

	Relative humidity		
Event	**10%**	**40%**	**55%**
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tube	2,000 V	700 V	400 V
Removing DIPS from vinyl tray	11,500 V	4,000 V	2,000 V
Removing DIPS from Styrofoam	14,500 V	5,000 V	3,500 V
Removing bubble pack from PCB	26,500 V	20,000 V	7,000 V
Packing PCBs in foam-lined box	21,000 V	11,000 V	5,000 V

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Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or nonconductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, screwdrivers, and vacuums.
- When fixtures must directly contact dissipative surfaces, use fixtures made only of static-safe materials.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Handle ESD-sensitive components, parts, and assemblies by the case or PCM laminate. Handle these items only at static-free workstations.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting or removing connectors or test equipment.

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Equipment guidelines

Grounding equipment must include either a wrist strap or a foot strap at a grounded workstation.

- When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

- Antistatic tape
- Antistatic smocks, aprons, and sleeve protectors
- Conductive bins and other assembly or soldering aids
- Nonconductive foam
- Conductive tabletop workstations with ground cords of one megohm resistance
- Static-dissipative tables or floor mats with hard ties to the ground
- Field service kits
- Static awareness labels
- Material-handling packages
- Nonconductive plastic bags, tubes, or boxes
- Metal tote boxes
- Electrostatic voltage levels and protective materials

The following table lists the shielding protection provided by antistatic bags and floor mats.

Material	Use	Voltage protection level
Antistatic plastic	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

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Unknown user password

If the computer you are servicing has an unknown user password, follow these steps to clear the password.

NOTE: These steps also clear CMOS.

Before disassembling the computer, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the RTC battery (see RTC battery on page 75).
6. Wait approximately 5 minutes.
7. Replace the RTC battery and reassemble the computer.
8. Connect AC power to the computer. Do not reinsert any batteries at this time.
9. Turn on the computer.

All passwords and all CMOS settings have been cleared.

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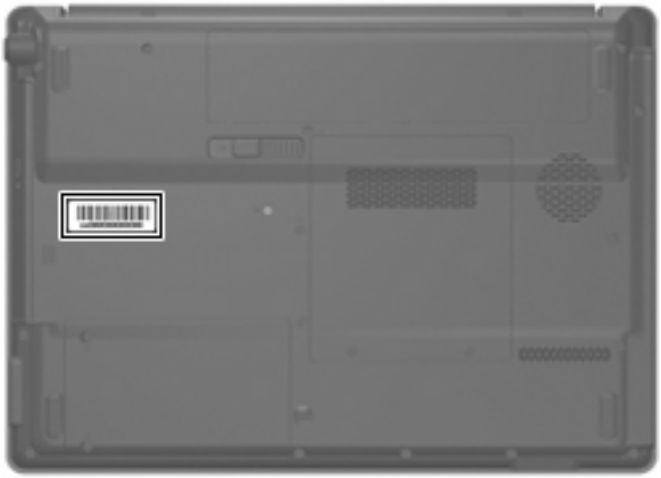
Component replacement procedures

This chapter provides removal and replacement procedures.

There are as many as 79 screws, in 9 different sizes, that must be removed, replaced, or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

Serial number

Report the computer serial number to HP when requesting information or ordering spare parts. The serial number is located on the bottom of the computer.



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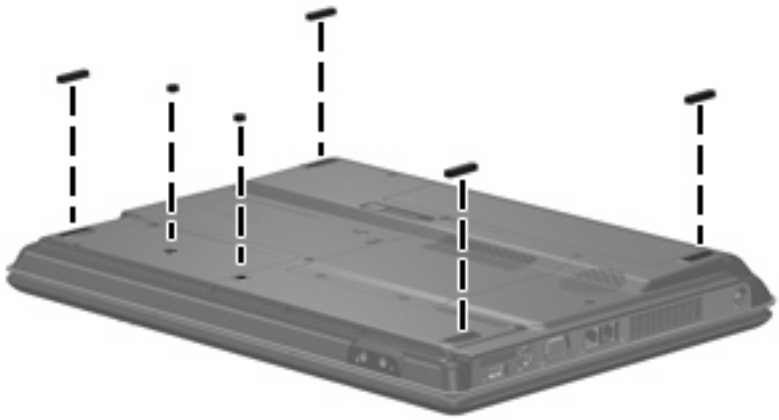
Computer feet

Description	Spare part number
Rubber Foot Kit (includes 6 base enclosure rubber feet)	454952-001

The computer feet are adhesive-backed rubber pads. The feet attach to the base enclosure in the locations illustrated below.



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Battery

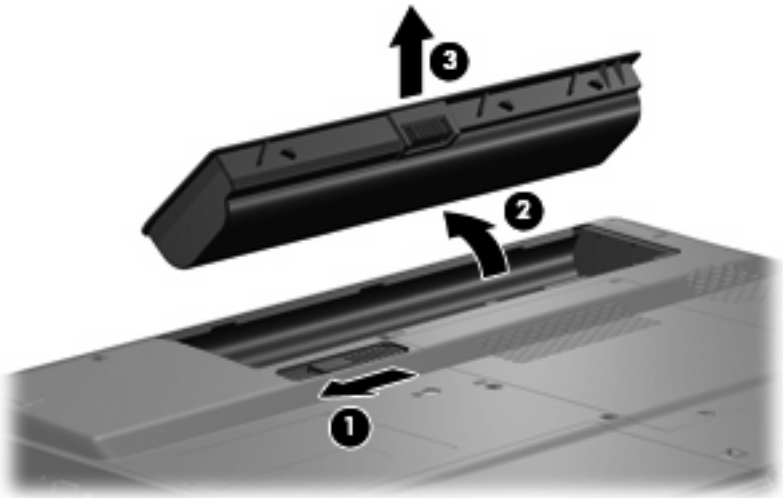
Description	Spare part number
6-cell, 2.20-Ah, 47-Wh Li-ion battery	454931-001

Before disassembling the computer, follow these steps

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.

Remove the battery:

1. Turn the computer upside down on a flat surface.
2. Slide the battery release latch **(1)** to release the battery.
3. Pivot the battery **(2)** upward and remove it from the computer **(3)**.



To insert the battery, insert the rear edge of the battery into the battery bay and pivot the front edge downward until the battery is seated. The battery release latch automatically locks the battery into place.

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Hard drive

NOTE: All hard drive spare part kits include a hard drive bracket.

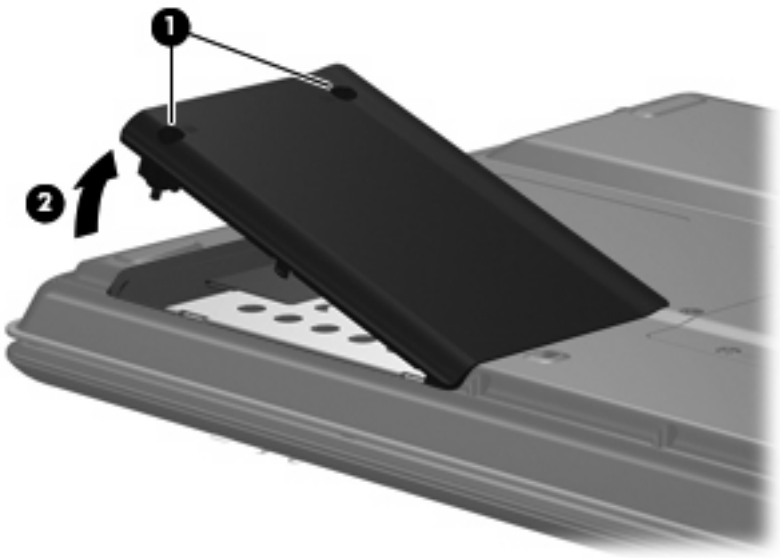
Description	Spare part number
160-GB, 5400-rpm	454925-001
120-GB, 5400-rpm	454924-001
80-GB, 5400-rpm	454923-001

Before removing the hard drive, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).

Remove the hard drive:

1. Position the computer with the front toward you.
2. Loosen the two Phillips PM2.0×5.0 captive screws **(1)** that secure the hard drive bay cover to the computer.
3. Lift the left side of the hard drive bay cover **(2)**, swing it up and to the right, and remove the cover. The hard drive bay cover is included in the Plastics Kit, spare part number 454937-001.



4. Use the Mylar tab **(1)** to slide the hard drive **(2)** to the left until it disconnects from the system board.

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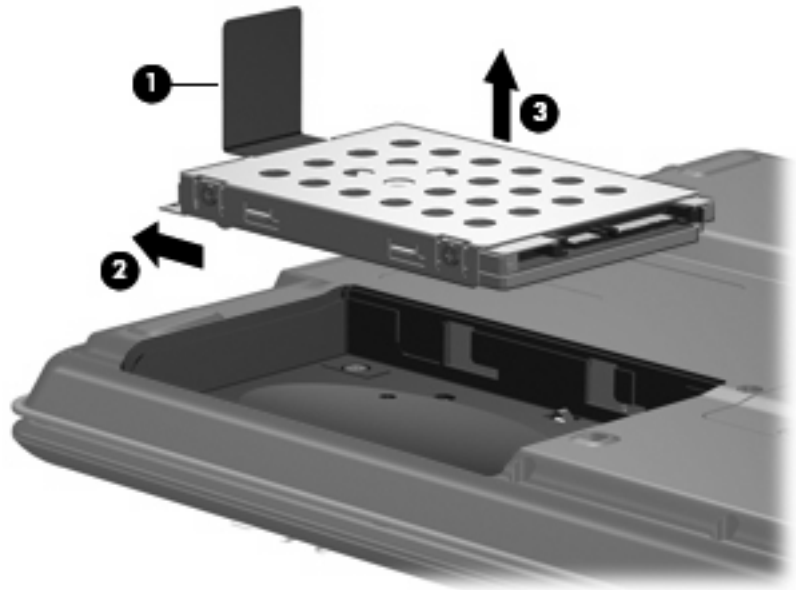
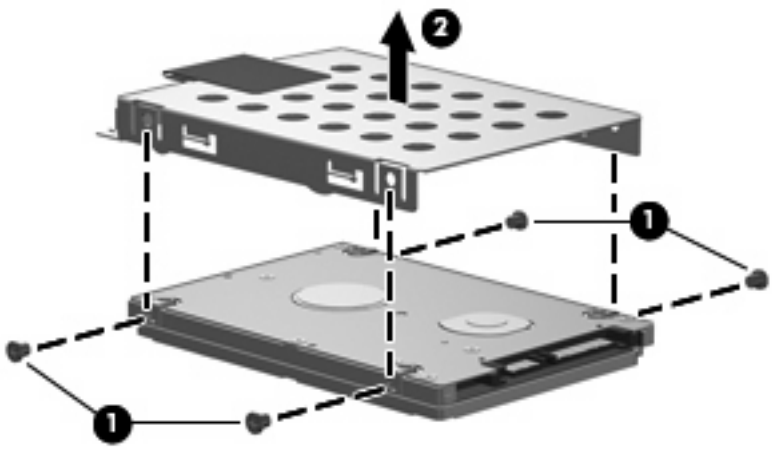
5. Remove the hard drive **(3)** from the hard drive bay.



6. Remove the hard drive from the hard drive bay.
7. If it is necessary to replace the hard drive bracket, remove the four Phillips PM3.0×3.0 screws **(1)** that secure the hard drive bracket to the hard drive.
8. Lift the bracket **(2)** straight up to remove it from the hard drive.



Reverse this procedure to reassemble and install the hard drive.

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Memory module

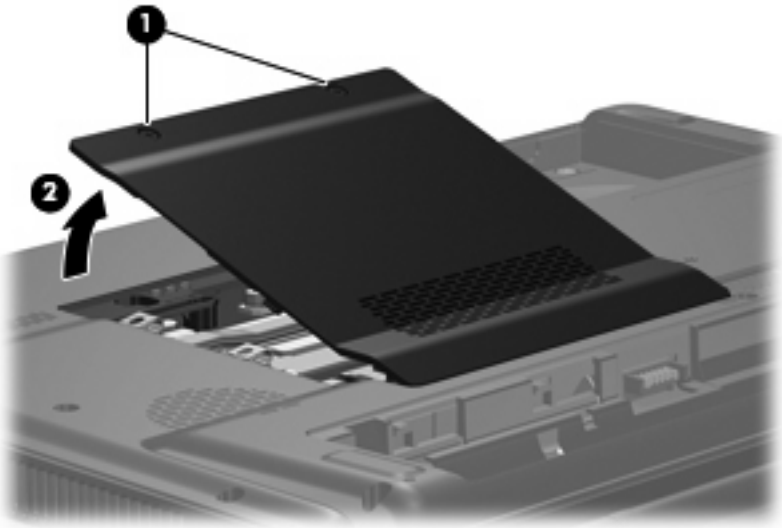
Description	Spare part number
1024-MB (667-MHz, PC2-5300, DDR2)	454922-001
512-MB (667-MHz, PC2-5300, DDR2)	454920-001
256-MB (667-MHz, PC2-5300, DDR2)	454921-001

Before removing the memory module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).

Remove the memory module:

1. Loosen the two Phillips PM2.0×5.0 captive screws **(1)** that secure the memory/wireless module compartment cover to the computer.
2. Lift the rear edge of the cover **(2)**, swing it up and forward, and remove the cover. The memory/wireless module compartment cover is included in the Plastics Kit, spare part number 454937-001.



3. Spread the retaining tabs **(1)** on each side of the memory module slot to release the memory module. (The edge of the module opposite the slot rises away from the computer.)

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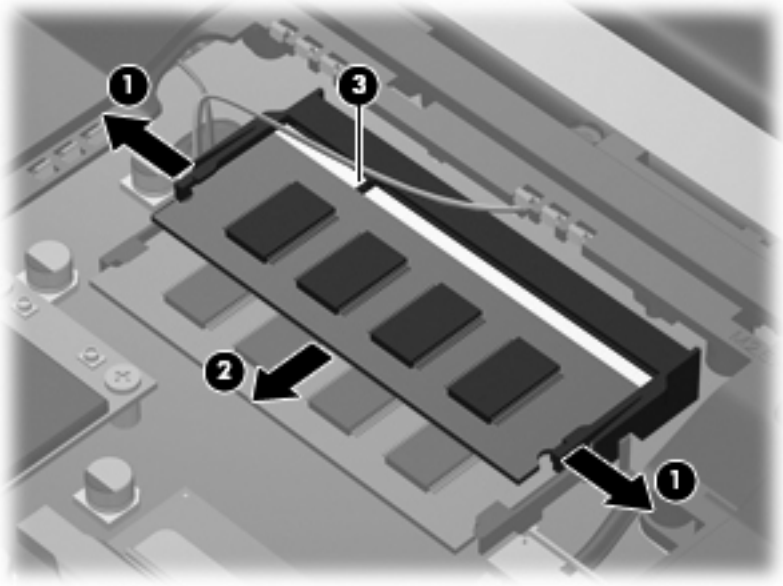
4. Remove the module **(2)** by pulling it away from the slot at an angle.

NOTE: Memory modules are designed with a notch **(3)** to prevent incorrect installation into the memory module slot.



Reverse this procedure to install a memory module.

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WLAN module

Description	Spare part number
Broadcom 802.11a/b/g WLAN modules:	
• For use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam	441075-001
• For use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan	441075-002
• For use in Japan	441075-291
Intel 802.11a/b/g WLAN modules:	
• For use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam	451861-001
• For use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan	451861-002
• For use in Ecuador, Haiti, Honduras, Pakistan, the People's Republic of China, Peru, Qatar, South Korea, Uruguay, and Venezuela	451861-003
• For use in Japan	451861-291
Broadcom 802.11b/g WLAN modules:	
• For use in Antigua and Barbuda, Argentina, Australia, the Bahamas, Barbados, Brunei, Canada, Chile, the Dominican Republic, Guam, Guatemala, Hong Kong, India, Indonesia, Malaysia, Mexico, New Zealand, Panama, Paraguay, Saudi Arabia, Taiwan, the United States, and Vietnam	441090-001
• For use in Aruba, Austria, Azerbaijan, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, the Cayman Islands, Colombia, Croatia, Cyprus, the Czech Republic, Denmark, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Jordan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Oman, the Philippines, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, the United Kingdom, and Uzbekistan	441090-002
• For use in Japan	441090-291
802.11b/g WLAN module for use in Thailand	451861-004
Atheros AR2425 802.11b/g WLAN module:	
• For use in Albania, Algeria, Andorra, Angola, Antigua & Barbuda, Afghanistan, Syria, Nether Antilles, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia & Herzegovina, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central	459339-002

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Description	Spare part number
African Republic, Chad, Chile, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, Czech Republic, Zaire, Denmark, Djibouti, Dominica, Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, South Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Martinique, Guadeloupe, Bermuda, French Guiana, Aruba, British Virgin Islands, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua, New Guinea, Paraguay, People's Republic of China, Peru, Philippines, Poland, Portugal, Qatar, Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome & Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Trinidad & Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe	

△ **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the hard drive bay cover (see Hard drive on page 41).

Remove the WLAN module:

1. Position the computer with the front toward you.
2. Disconnect the two WLAN antenna cables **(1)** from the WLAN module.

NOTE: The black WLAN antenna cable is connected to the WLAN module “Main” terminal. The white WLAN antenna cable is connected to the WLAN module “Aux” terminal.

3. Remove the two Phillips PM2.0×4.0 screws **(2)** that secure the WLAN module to the computer. (The edge of the module opposite the slot rises away from the computer.)

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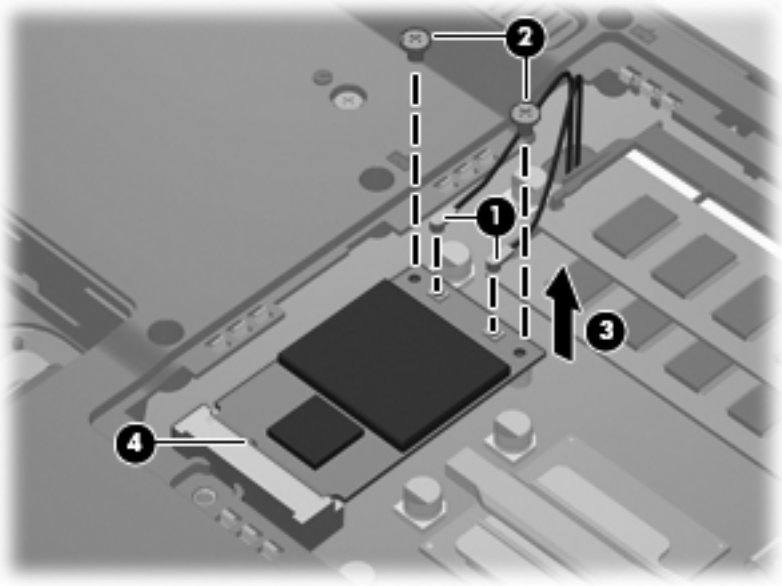
4. Remove the WLAN module **(3)** by pulling it away from the slot at an angle.

NOTE: WLAN modules are designed with a notch **(4)** to prevent incorrect installation into the WLAN module slot.



Reverse this procedure to install a WLAN module.

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Optical drive

NOTE: All optical drive spare part kits include an optical drive bezel.

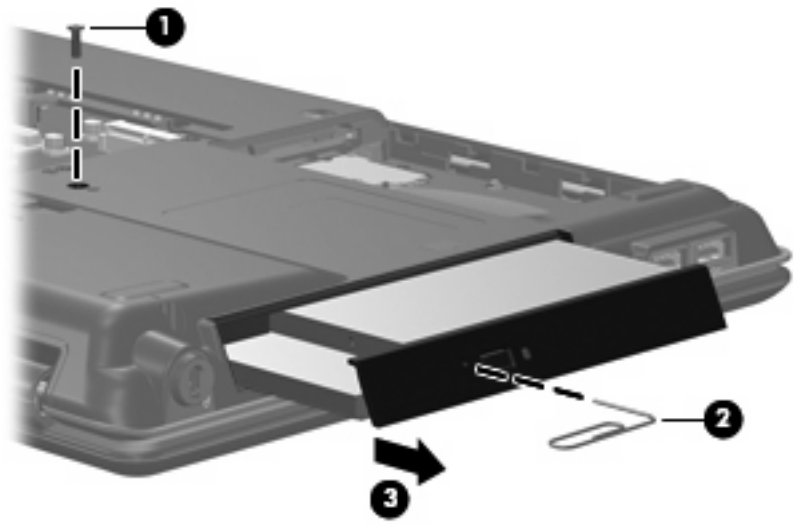
Description	Spare part number
DVD±RW and CD-RW Super Multi Double-Layer Combo Drive with LightScribe	454929-001
DVD±RW and CD-RW Super Multi Double-Layer Combo Drive	454928-001
DVD/CD-RW Combo Drive	454927-001

Before removing the optical drive, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).

Remove the optical drive:

1. Position the computer with right side toward you.
2. Remove the Phillips PM2.5×9.0 screw **(1)** that secures the optical drive to the computer.
3. Insert a thin tool, such as a paper clip **(2)**, into the release access. (The optical drive media tray is partially ejected from the optical drive.)
4. Use the media tray frame to remove the optical drive **(3)**.



5. If it is necessary to replace the optical drive bracket, position the optical drive with the optical drive bracket toward you.

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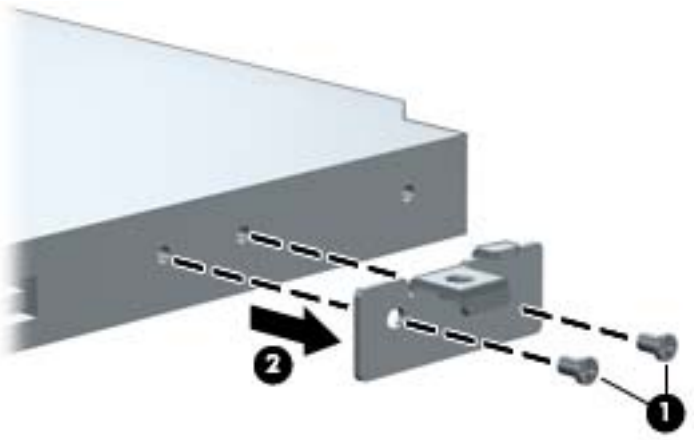
6. Remove the two Phillips PM2.0×3.0 screws **(1)** that secure the optical drive bracket to the optical drive.
7. Remove the optical drive bracket **(2)**.



Reverse the above procedure to reassemble and install the optical drive.

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Keyboard

For use in:	Spare part number	For use in:	Spare part number
Belgium	454954-A41	The Netherlands and Europe	454954-B31
Brazil	454954-201	Portugal	454954-131
Czechoslovakia	454954-221	Russia	454954-251
Denmark, Finland, Norway, and Sweden	454954-DH1	Saudi Arabia	454954-171
France	454954-051	South Korea	454954-AD1
French Canada	454954-121	Spain	454954-071
Germany	454954-041	Switzerland	454954-BG1
Greece	454954-151	Taiwan	454954-AB1
Israel	454954-BB1	Thailand	454954-281
Italy	454954-061	Turkey	454954-141
Japan	454954-291	The United Kingdom	454954-031
Latin America	454954-161	The United States	454954-001

Before removing the keyboard, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).

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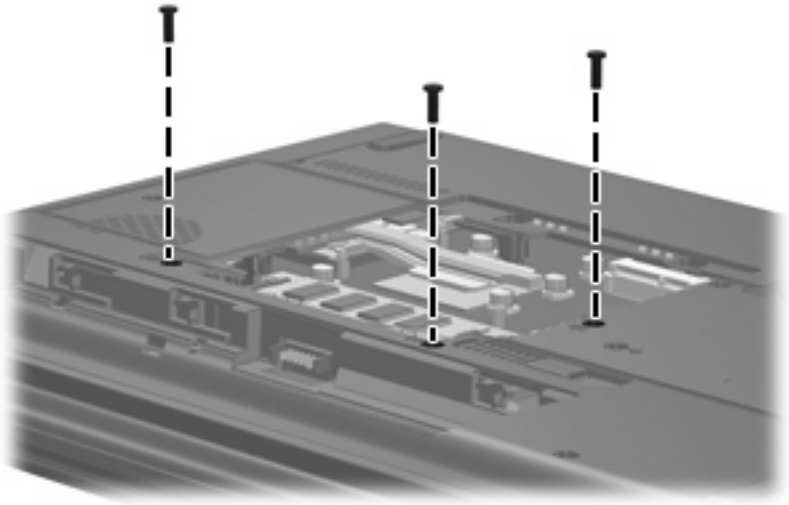
Remove the keyboard:

1. Remove the three Phillips PM2.5×9.0 screws that secure the keyboard to the computer.



2. Turn the computer right-side up, with the front toward you.
3. Open the computer as far as possible.
4. Lift the rear edge of the keyboard **(1)** until it rests at an angle.
5. Release the keyboard **(2)** by sliding it back until it rests on the display assembly.

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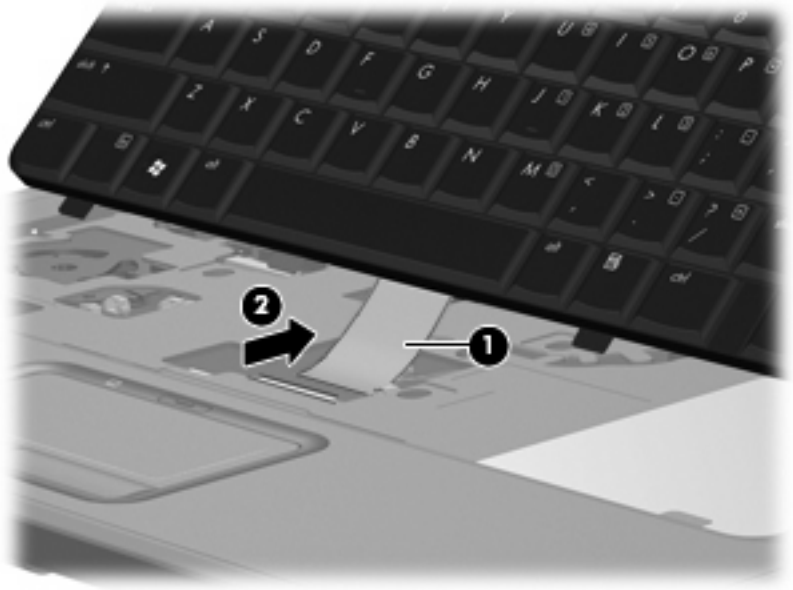
6. Release the zero insertion force (ZIF) connector to which the keyboard cable **(1)** is attached and disconnect the cable **(2)** from the system board.



7. Remove the keyboard.

Reverse this procedure to install the keyboard.

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Switch cover

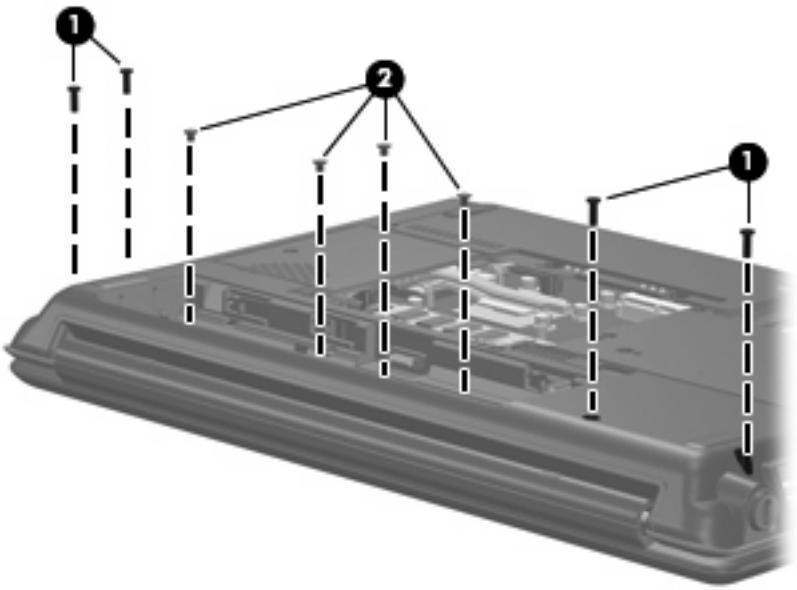
Description	Spare part number
Switch cover (includes caps lock LED board and cable, power button board and cable, and wireless button board and cable)	454940-001

Before removing the switch cover, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the keyboard (see Keyboard on page 50).

Remove the switch cover:

1. Turn the computer upside down, with the rear panel toward you.
2. Remove the four Phillips PM2.5×9.0 screws **(1)** and the four black Phillips PM2.5×4.0 screws **(2)** that secure the switch cover to the computer.



3. Turn the computer right-side up, with the front toward you.
4. Open the computer as far as possible.
5. Release the ZIF connector to which the power button board cable **(1)** is connected and disconnect the cable from the system board.

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6. Remove the switch cover **(2)**.

Reverse this procedure to install the switch cover.

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Display assembly

Description	Spare part number
For use only with HP G7000 computer models:	
15.4-inch, WSXGA+BrightView display assembly without a camera	454932-001
15.4-inch, WSXGA+BrightView display assembly with a camera	462455-001
For use only with Compaq Presario C700 computer models:	
15.4-inch, WSXGA+BrightView display assembly without a camera	454934-001
15.4-inch, WSXGA+BrightView display assembly with a camera	462456-001

Before removing the display assembly, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Disconnect the wireless antenna cables from the WLAN module (see WLAN module on page 45).
6. Remove the keyboard (see Keyboard on page 50).
7. Remove the switch cover (see Switch cover on page 53).

Remove the display assembly:

1. Disconnect the display panel cable **(1)** from the system board and remove the cable from the clips **(2)** and routing channel built into the top cover.
2. Disconnect the microphone cable **(3)** from the system board .

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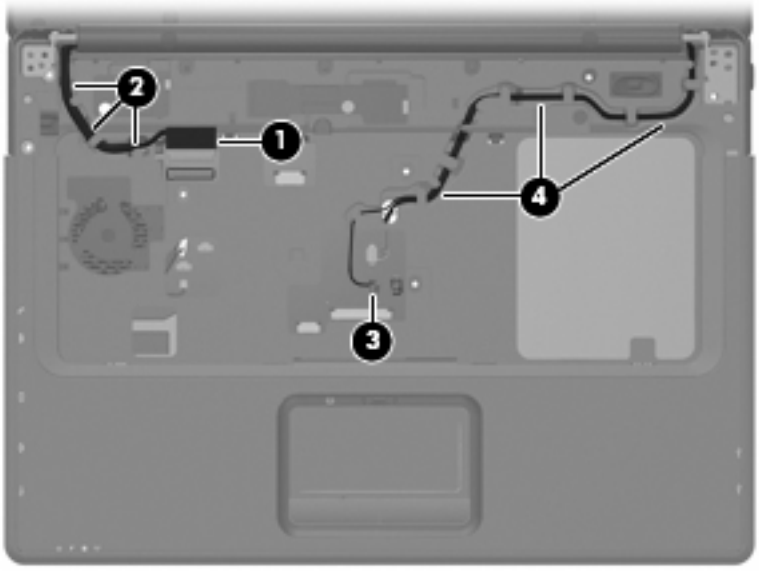
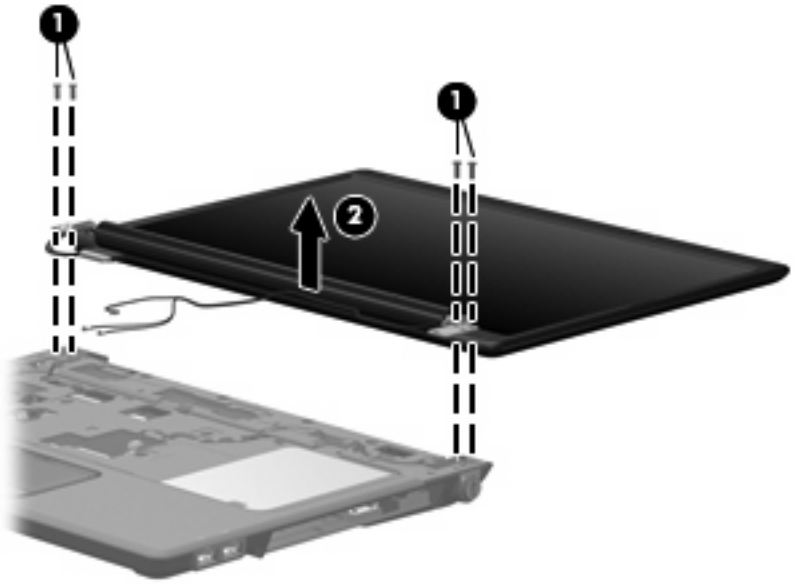
3. Remove the microphone cable and the WLAN antenna cables from the clips **(4)** and routing channel built into the top cover.



△ **CAUTION:** The display assembly will be unsupported when the following screws are removed. To prevent damage to the display assembly, support it before removing the screws.

4. Remove the four black Phillips PM2.5×9.0 screws **(1)** that secure the display assembly to the computer.

5. Remove the display assembly **(2)**.



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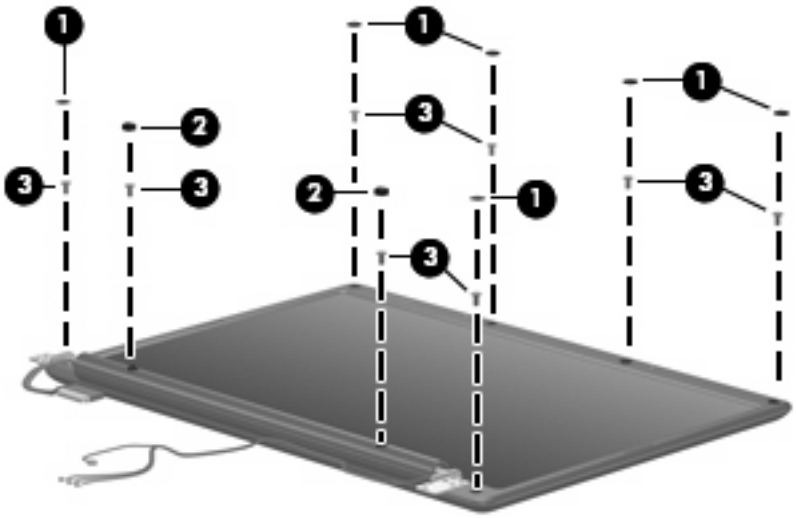
6. If it is necessary to replace any of the display assembly internal components, remove the following screw covers and screws. The display rubber screw covers are included in the Display Rubber Kit, spare part number 454917-001.

   (1) Six rubber screw covers on the display bezel top edge and bottom edge corners. The rubber screw covers are available in the Display Rubber Kit, spare part number 454917-001.

   NOTE: There are two different sizes of display bezel rubber screw covers. The thicker covers **(2)** must be installed in the bottom center screw holes.

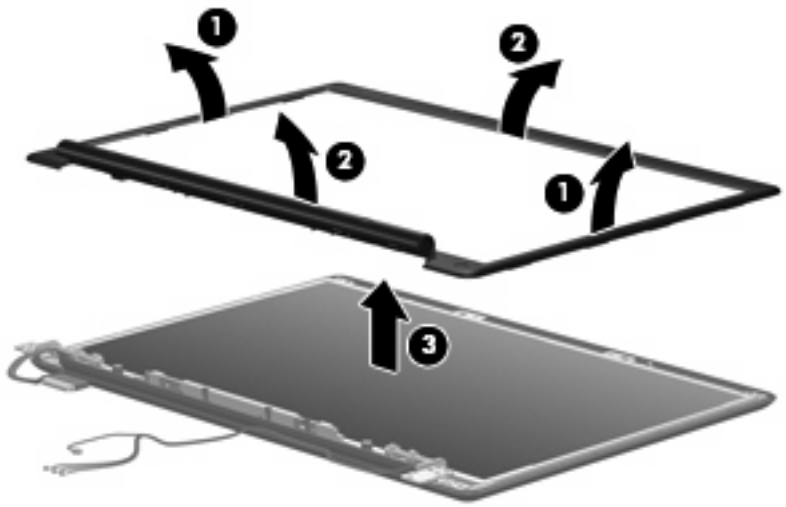
   (2) Two rubber screw covers on the display bezel bottom edge.

   (3) Eight Phillips PM2.5×7.0 screws.



7. Flex the inside edges of the left and right sides **(1)** and the top and bottom sides **(2)** of the display bezel until the bezel disengages from the display enclosure.

8. Remove the display bezel **(3)**. The display bezel is available using spare part numbers 454909-001 (HP G7000 computer models without a camera), 462445-001 (HP G7000 computer models with a camera, 454910-001 (Compaq Presario C700 computer models without a camera), and 462446-001 (Compaq Presario C700 computer models with a camera).



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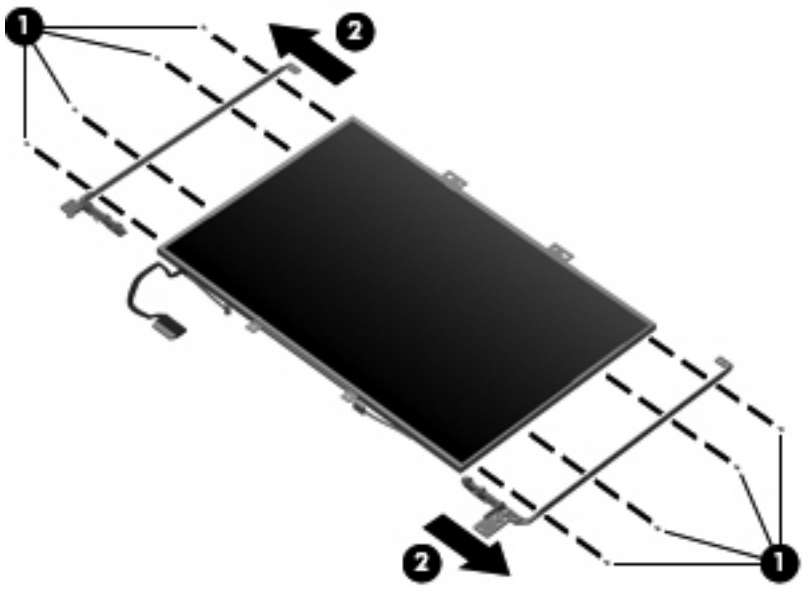
9. If it is necessary to replace the display inverter, release the inverter **(1)** as far as the display panel cable and the backlight cable will allow.
10. Disconnect the display panel cable **(2)** and the backlight cable **(3)** from the display inverter.

11. Remove the inverter. The display inverter is available using spare part number 454915-001.
12. If it is necessary to replace the display hinges, remove the four Phillips PM2.0×4.0 screws **(1)** that secure each hinge to the display panel.
13. Remove the display hinges **(2)** from the display panel. The display hinges are available using spare part number 454916-001.



14. If it is necessary to replace the display panel, remove the six Phillips PM2.5×4.0 screws **(1)** that secure the panel to the display enclosure.

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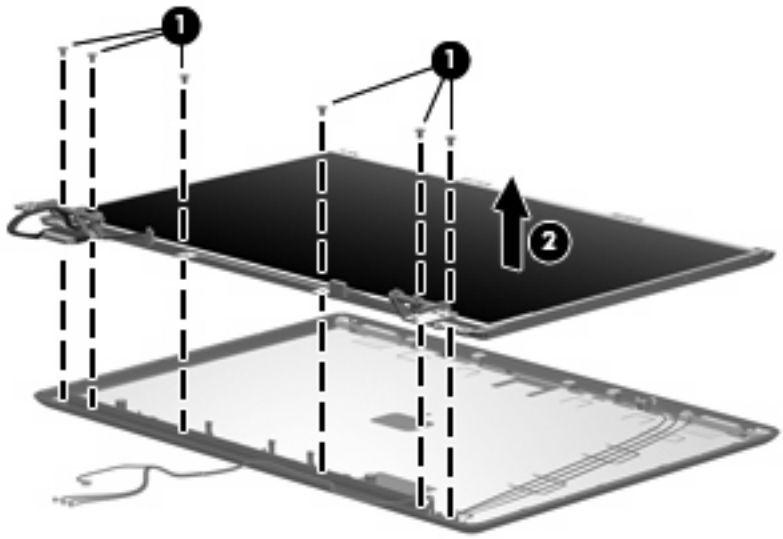
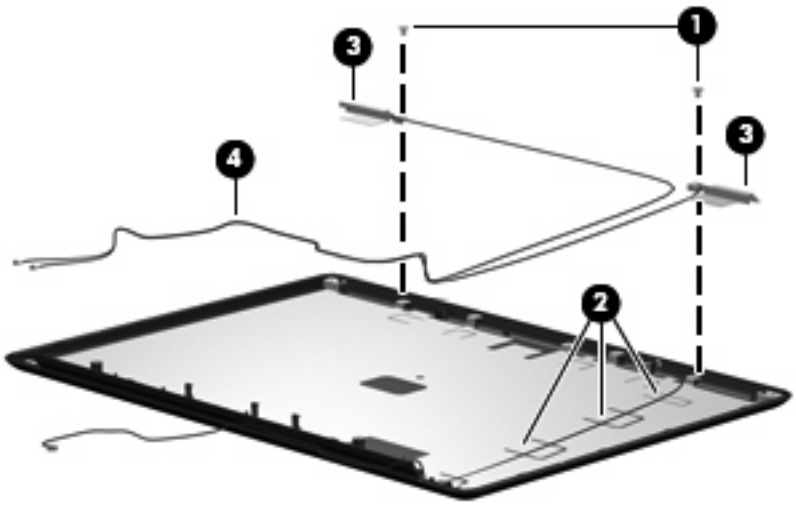
15. Remove the display panel **(2)** from the display enclosure. The display panel is available using the spare part number 454323-001.



16. If it is necessary to replace the wireless antenna transceivers and cables, remove the two Phillips PM2.5×4.0 screws **(1)** that secure the transceivers to the display enclosure.
17. Remove the wireless antenna cables from the clips **(2)** built into the display enclosure.
18. Detach the wireless antenna transceivers **(3)** from the display enclosure.
19. Remove the wireless antenna transceivers and cables **(4)** from the display enclosure. The wireless antenna transceivers and cables are available in the Display Cable Kit, spare part number 454919-001.



20. If it is necessary to replace the microphone receiver and cable, release the retention tabs **(1)** built into the display enclosure that secure the microphone cable to the display enclosure.
21. Remove the microphone receiver **(2)** from the clip in the display enclosure.

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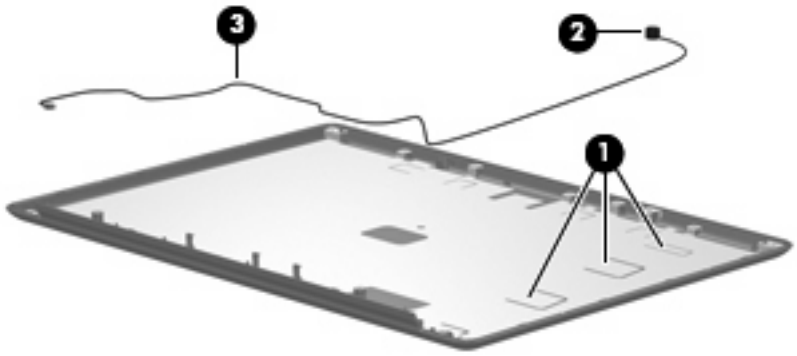
22. Remove the microphone cable **(3)** from the display enclosure. The microphone receiver and cable are included in the Display Cable Kit, spare part number 454919-001.



Reverse this procedure to reassemble and install the display assembly.

Camera module

If it has been determined that the camera module is the component that must be replaced to complete the computer repair, the display assembly does not have to be removed. Follow the procedures in this section to replace the camera module. For information on replacing the display assembly and other display assembly internal components, see Display assembly on page 55.

Description	Spare part number
Camera module	462448-001

Before removing the camera module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).

Remove the camera module:

1. Turn the computer display-side up, with the front toward you.
2. Open the computer as far as it will open.
3. Remove the four rubber screw covers **(1)** on the display bezel top edge. The display rubber screw covers are included in the Display Rubber Kit, spare part number 454917-001.

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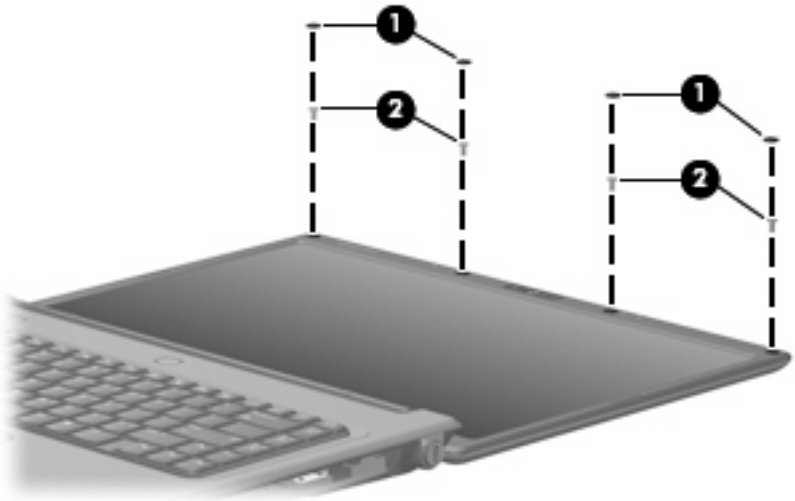
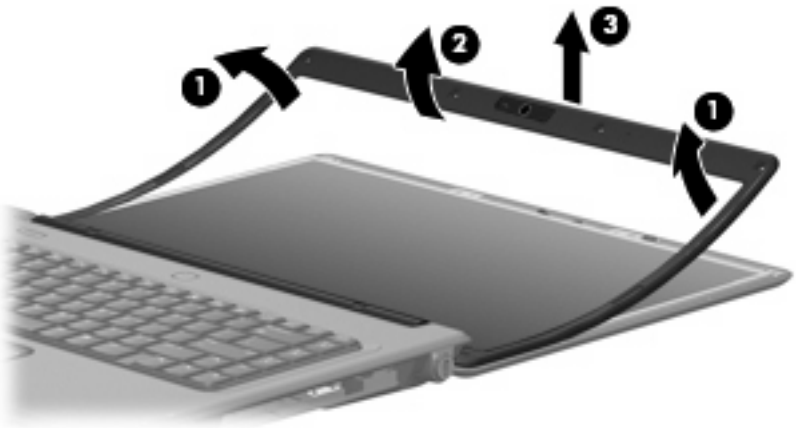
4. Remove the four Phillips PM2.5×7.0 screws **(2)** that secure the display bezel top edge to the display assembly.



5. Flex the inside edges of the left and right sides **(1)** and the top edge **(2)** of the display bezel until the bezel disengages from the display enclosure.

6. Release the display bezel top edge **(3)**. Display bezels are available using the following spare part numbers:

   - 454909-001 (for use only with HP G7000 computer models without a Web camera; includes microphone; includes openings for camera module and microphones)
   - 462445-001 (for use only with HP G7000 computer models with a Web camera; includes openings for microphones)
   - 454910-001 (for use only with Compaq Presario C700 computer models without a Web camera; includes openings for microphones)
   - 462446-001 (for use only with Compaq Presario C700 computer models with a Web camera; includes openings for microphones)



7. Remove the screws **(1)**, and then release the camera module **(2)** from the display enclosure as far as the camera module cable allows.

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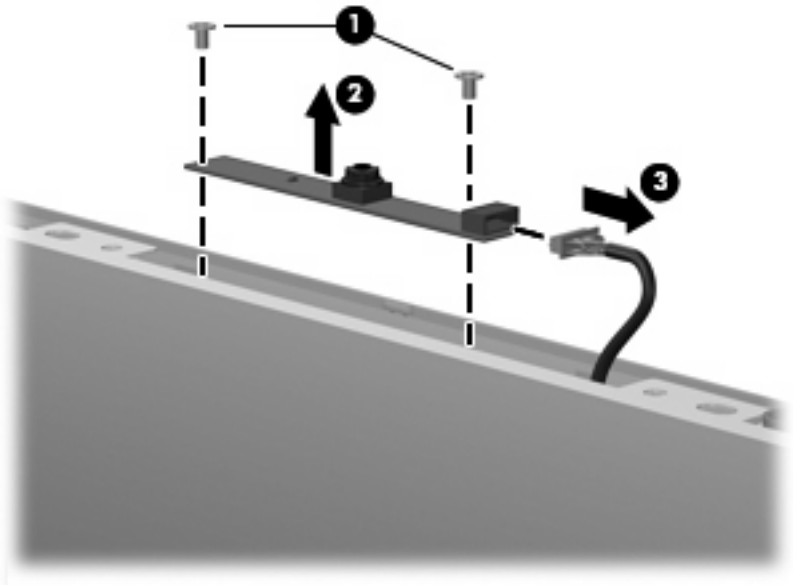
8. Disconnect the camera module cable **(3)** from the camera module.



Reverse this procedure to install the camera module.

Top cover

Description	Spare part number
Top cover for use only in computer models not equipped with a Web camera (includes TouchPad and cable)	454936-001
Top cover for use only in computer models equipped with a Web camera (includes TouchPad and cable)	466649-001

Before removing the top cover, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)

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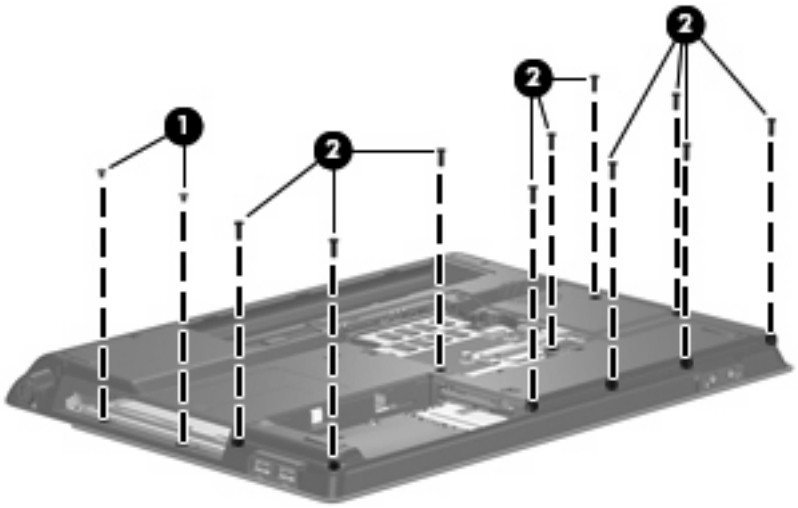
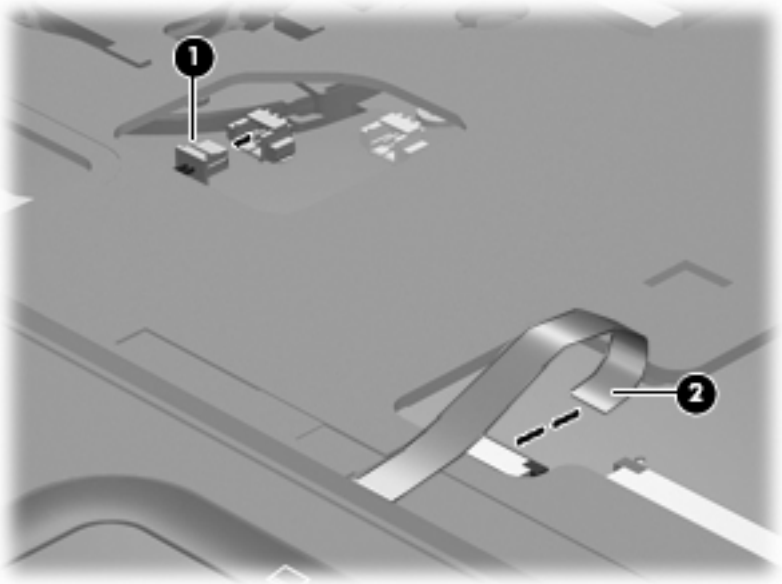
Remove the top cover:

1. Turn the computer upside down, with the front toward you.
2. Remove the two Phillips PM2.5×4.0 screws **(1)** and the ten Phillips PM2.5×9.0 screws **(2)** that secure the top cover to the computer.



3. Turn the computer right-side up, with the front toward you.
4. Disconnect the caps lock LED board cable **(1)** from the system board.
5. Release the ZIF connector to which the TouchPad cable is connected and disconnect the cable **(2)** from on the system board.



6. Lift the rear edge of the top cover **(1)** and swing it **(2)** up and forward until it rests at an angle.

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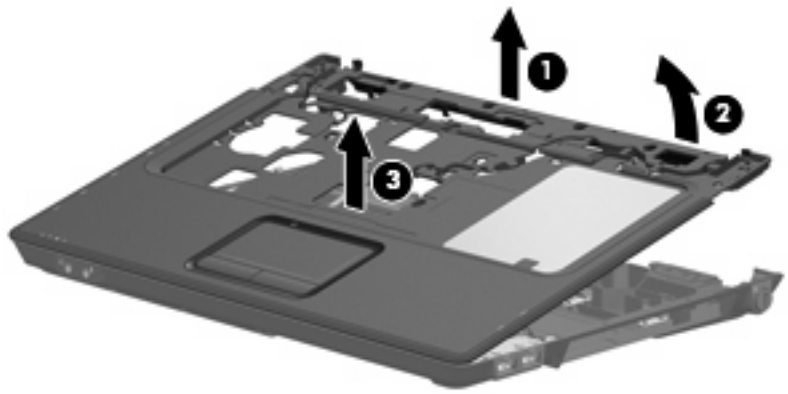
7. Remove the top cover **(3)**.



Reverse this procedure to install the top cover.

Caps lock LED board

Description	Spare part number
Caps lock LED board (includes cable)	454948-001

Before removing the caps lock LED board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)

Remove the caps lock LED board:

1. Turn the top cover upside down, with the front toward you.
2. Remove the Phillips PM2.0×4.0 screw **(1)** that secures the caps lock LED board to the top cover.

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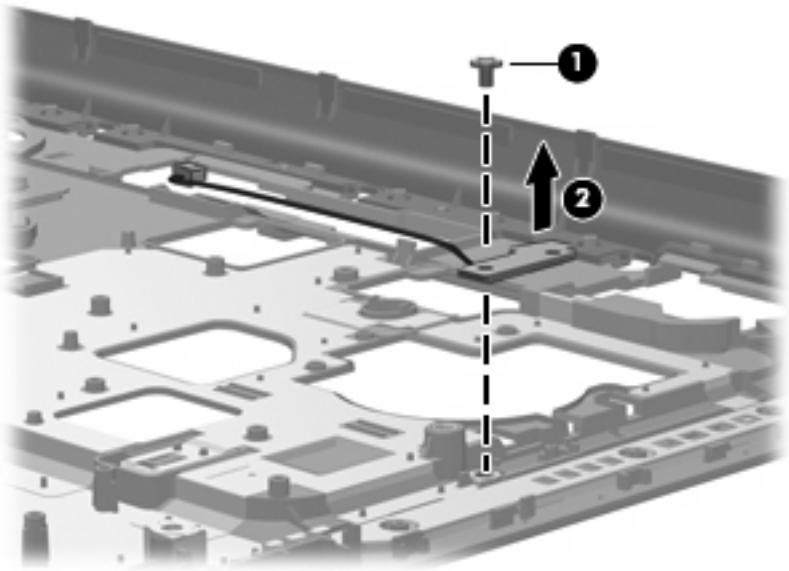
3. Remove the caps lock LED board **(2)** from the top cover.



Reverse the above procedure to install the caps lock LED board.

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USB board

Description	Spare part number
USB board (includes USB board cable)	454941-001

Before removing the USB board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)

Remove the USB board:

1. Disconnect the USB board cable **(1)** from the system board.
2. Remove the Phillips PM2.5×4.0 screw **(2)** that secures the USB board to the base enclosure.

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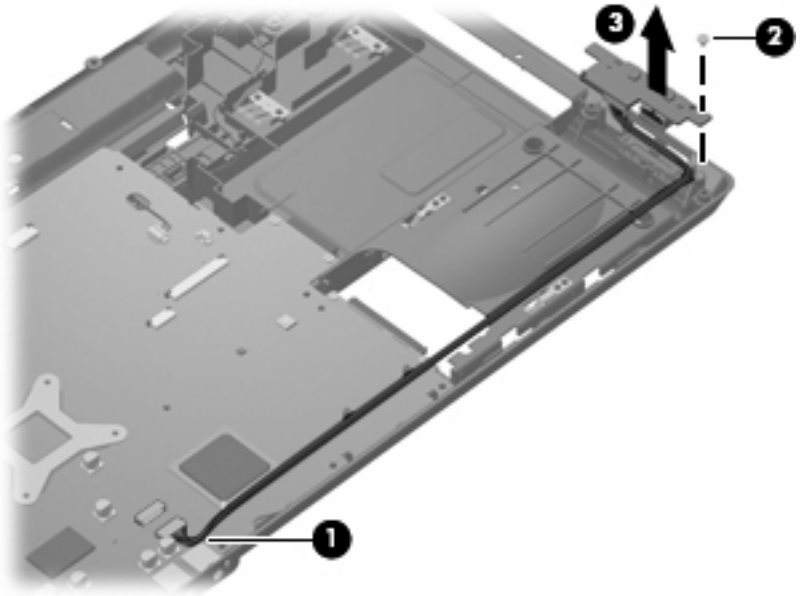
3. Remove the USB board **(3)** from the base enclosure.



Reverse this procedure to install the USB board.

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Fan

Description	Spare part number
Fan	454944-001

NOTE: To properly ventilate the computer, allow at least a 7.6-cm (3-inch) clearance on the left side of the computer. The computer uses an electric fan for ventilation. The fan is controlled by a temperature sensor and is designed to turn on automatically when high temperature conditions exist. These conditions are affected by high external temperatures, system power consumption, power management/battery conservation configurations, battery fast charging, and software requirements. Exhaust air is displaced through the ventilation grill located on the left side of the computer.

Before removing the fan, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)

Remove the fan:

1. Disconnect the fan cable **(1)** from the system board.
2. Remove the Phillips PM2.0×9.0 screw **(2)** that secures the fan to the base enclosure.

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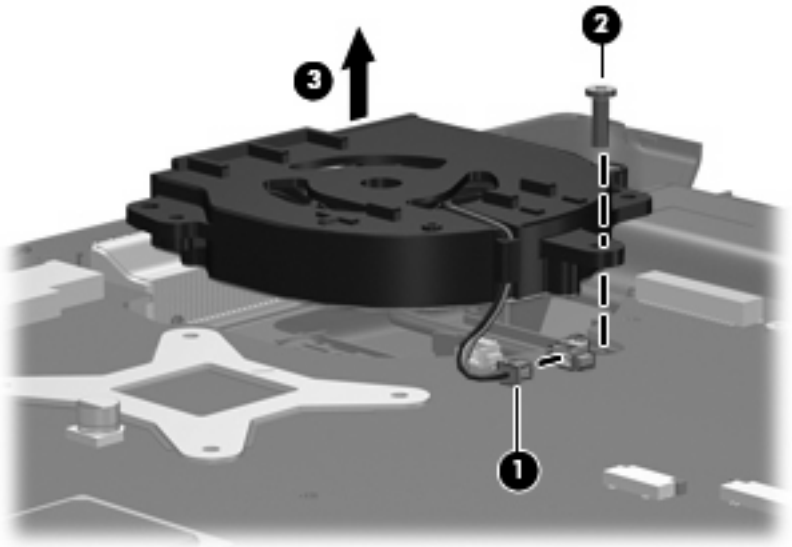
3. Remove the fan **(3)**.



Reverse this procedure to install the fan.

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Speakers

Description	Spare part number
Speakers	454946-001

Before removing the speakers, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)

Remove the speakers:

1. Disconnect the speaker cable **(1)** from the system board.
2. Remove the speaker cables **(2)** from the clip in the system board and the clips built into the base enclosure.
3. Remove the two Phillips PM2.5×4.0 screws **(3)** that secure the speakers to the base enclosure.

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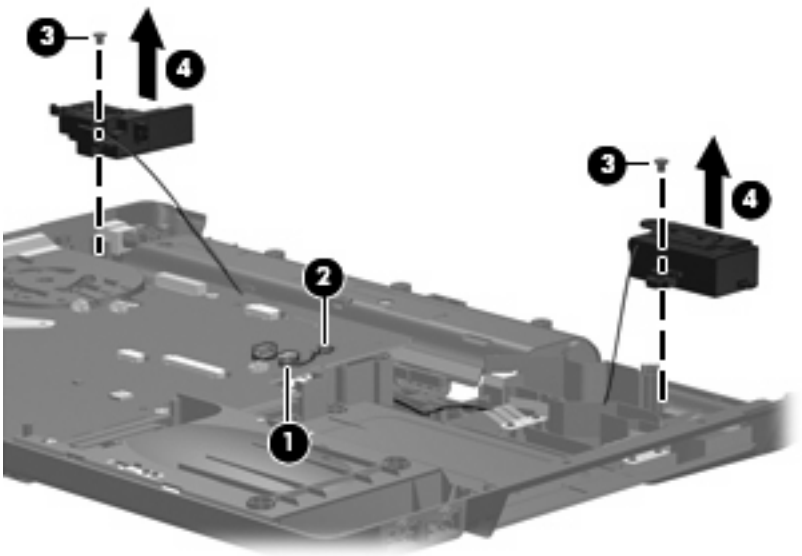
4. Remove the speakers **(4)** from the base enclosure.



Reverse this procedure to install the speakers.

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System board

NOTE: All system board spare part kits include replacement thermal material.

Description	Spare part number
For use in computer models not equipped with a Web camera:	
• For use only with computer models equipped with Intel Core 2 Duo and Core Duo processors and a card reader board	453494-001
• For use only with computer models equipped with Intel Core 2 Duo and Core Duo processors, but not a card reader board	454882-001
• For use only with computer models equipped with Intel Celeron M processors and a card reader board	453495-001
• For use only with computer models equipped with Intel Celeron M processors, but not a card reader board	454883-001
For use in computer models equipped with a Web camera:	
• Equipped with Intel Core 2 Duo and Core Duo processors and a card reader board	462439-001
• Equipped with Intel Core 2 Duo and Core Duo processors, but not a card reader board	462441-001
• Equipped with Intel Celeron M processors and a card reader board	462440-001
• Equipped with Intel Celeron M processors, but not a card reader board	462442-001

Before removing the system board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)

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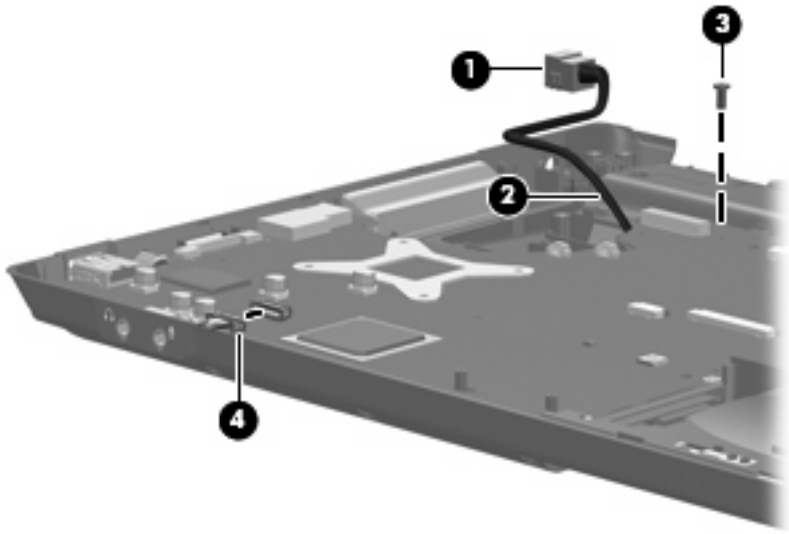
When replacing the system board, be sure that the following components are removed from the defective system board and installed on the replacement system board:

- Memory modules (see Memory module on page 43)
- WLAN module (see WLAN module on page 45)
- RTC battery (see RTC battery on page 75)
- Card reader board (see Card reader board on page 77)
- Heat sink (see Heat sink on page 79)
- Processor (see Processor on page 81)
- Power connector cable (see Power connector cable on page 83)

Remove the system board:

1. Remove the power connector **(1)** from the clip built into the base enclosure.
2. Remove the power connector cable **(2)** from the routing channel and clips built into the base enclosure.
3. Remove the black Phillips PM2.5×4.0 screw **(3)** that secures the system board to the base enclosure.
4. Disconnect the USB board cable **(4)** from the system board.



5. Flex the front edge of the base enclosure **(1)** outward to provide clearance for the audio connectors **(2)**.
6. Use the optical drive connector **(3)** to lift the right side of the system board **(4)** until it rests at an angle.

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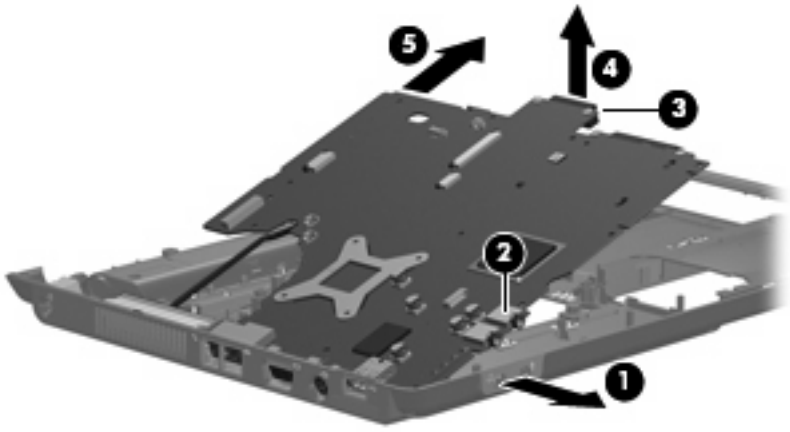
7. Remove the system board **(5)** by pulling it away from the base enclosure at an angle.



Reverse the preceding procedure to install the system board.

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RTC battery

NOTE: Removing the RTC battery and leaving it uninstalled for 5 or more minutes causes all passwords and CMOS settings to be cleared.

Description	Spare part number
RTC battery (includes double-sided tape)	454947-001

Before removing the RTC battery, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)
   g. System board (see System board on page 72)

Remove the RTC battery:

1. Turn the system board upside down, with the audio connectors toward you.
2. Disconnect the RTC battery cable **(1)** from the system board.

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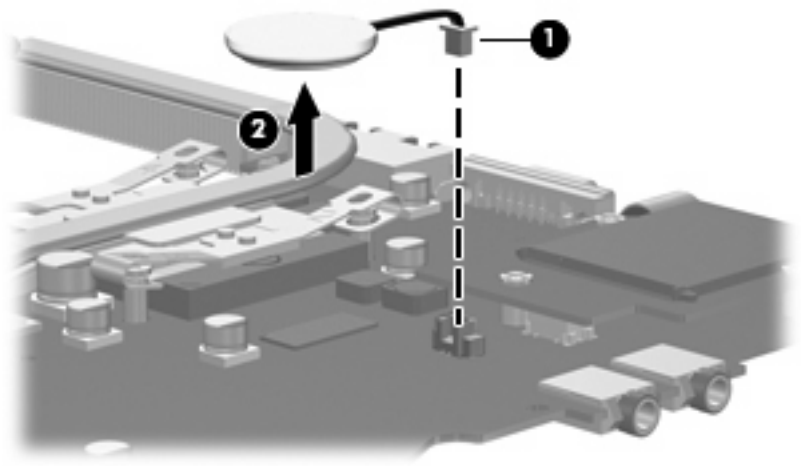
3. Remove the RTC battery **(2)**.

NOTE: The RTC battery is attached to the system board with double-sided tape.



Reverse this procedure to install the RTC battery.

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Card reader board

Description	Spare part number
Card reader board	454949-001

Before removing the card reader board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)
   g. System board (see System board on page 72)

Remove the card reader board:

1. Turn the system board upside down, with the audio connectors toward you.
2. Remove the three Phillips PM2.0×4.0 screws **(1)** that secure the card reader board to the system board.

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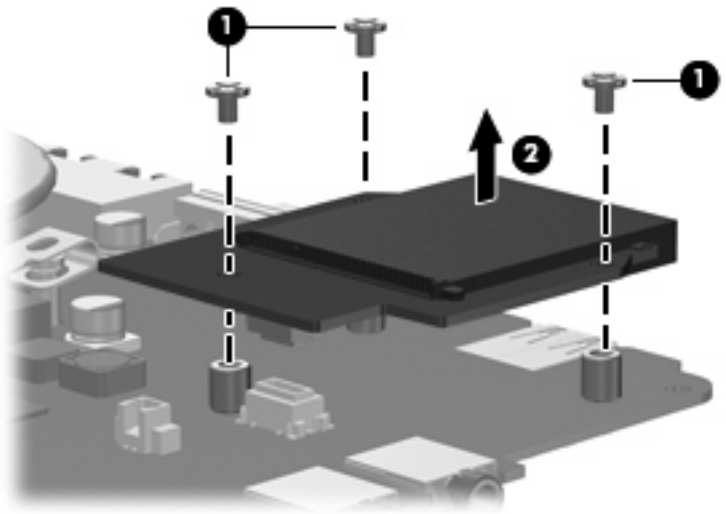
3. Lift the card reader board **(2)** straight up to disconnect it from the system board.



4. Remove the card reader board.

Reverse the above procedure to install the card reader board.

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Heat sink

Description	Spare part number
Heat sink (includes thermal material)	454943-001

Before removing the heat sink, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)
   g. System board (see System board on page 72)

Remove the heat sink:

1. Turn the system board upside down, with the audio connectors toward you.
2. Loosen the four Phillips PM2.5×6.0 captive screws **(1)** that secure the heat sink to the system board.

NOTE: Due to the adhesive quality of the thermal material located between the heat sink and system board components, it may be necessary to move the heat sink from side to side to detach the assembly.

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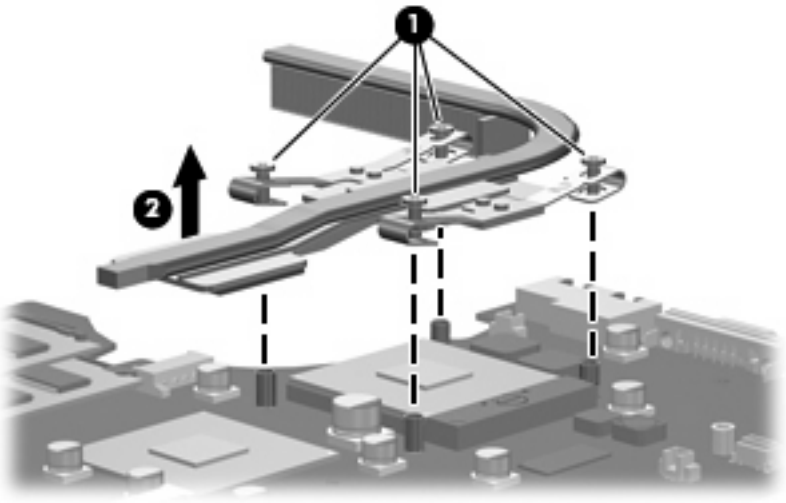
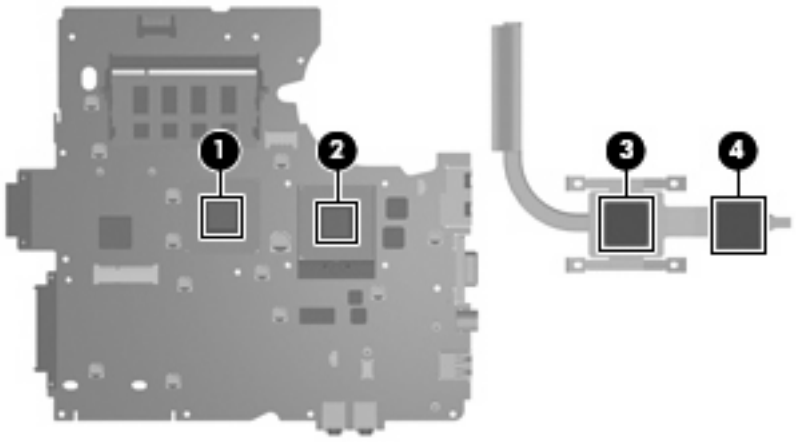
3. Remove the heat sink **(2)**.



NOTE: The thermal material must be thoroughly cleaned from the surfaces of the system board **(1)** and **(2)** and the heat sink **(3)** and **(4)** each time the heat sink is removed. Thermal pads and thermal paste must be installed on all surfaces before the heat sink is reinstalled. Thermal pads and thermal paste are included with all heat sink, system board, and processor spare part kits.



Reverse this procedure to install the heat sink.

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Processor

NOTE: All processor spare part kits include replacement thermal material.

Description	Spare part number
Intel Core 2 Duo T8300 (2.40-GHz, 3 MB of L2 cache, 800-MHz FSB)	459798-001
Intel Core 2 Duo T8100 (2.10-GHz, 3 MB of L2 cache, 800-MHz FSB)	459797-001
Intel Core 2 Duo T7250 (2.00-GHz, 2 MB of L2 cache, 800-MHz FSB)	454320-001
Intel Core 2 Duo T7100 (1.80-GHz, 2 MB of L2 cache, 800-MHz FSB)	448149-001
Intel Core Duo T5750 (2.00-GHz, 2 MB of L2 cache, 667-MHz FSB)	462353-001
Intel Core Duo T5450 (1.67-GHz, 2 MB of L2 cache, 667-MHz FSB)	451597-001
Intel Core Duo T2370 (1.73-GHz, 1 MB of L2 cache, 667-MHz FSB)	462354-001
Intel Core Duo T2330 (1.50-GHz, 1 MB of L2 cache, 667-MHz FSB)	455944-001
Intel Core Duo T2310 (1.50-GHz, 1 MB of L2 cache, 667-MHz FSB)	455943-001
Intel Celeron M 550 (2.00-GHz, 1 MB of L2 cache, 533-MHz FSB)	454322-001
Intel Celeron M 540 (1.86-GHz, 1 MB of L2 cache, 533-MHz FSB)	454321-001
Intel Celeron M 530 (1.73-GHz, 1 MB of L2 cache, 533-MHz FSB)	455437-001

Before removing the processor, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)
   g. System board (see System board on page 72)

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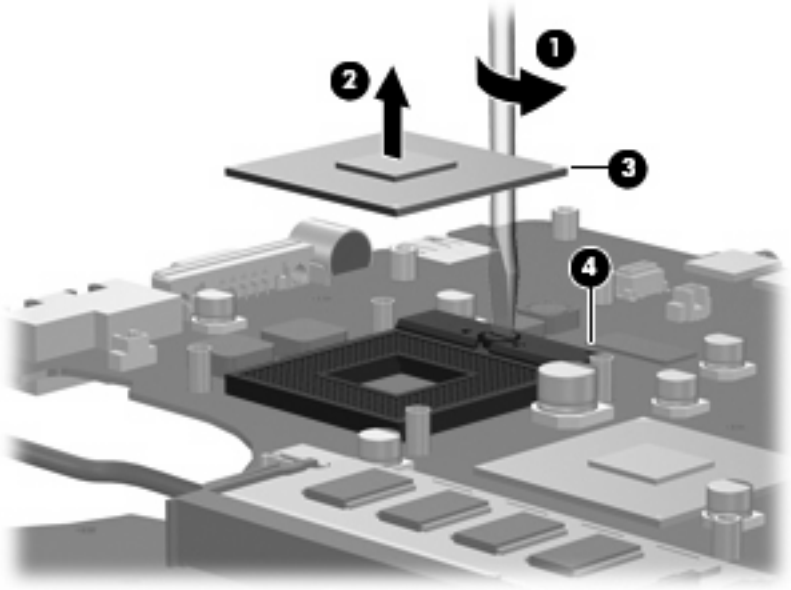
Remove the processor:

1. Turn the system board upside down, with the audio connectors toward you.
2. Turn the processor locking screw **(1)** one-half turn counterclockwise until you hear a click.
3. Lift the processor **(2)** straight up and remove it.

NOTE: When you install the processor, the gold triangle **(3)** on the processor must be aligned with the triangle icon **(4)** embossed on the processor slot.



Reverse this procedure to install the processor.

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Power connector cable

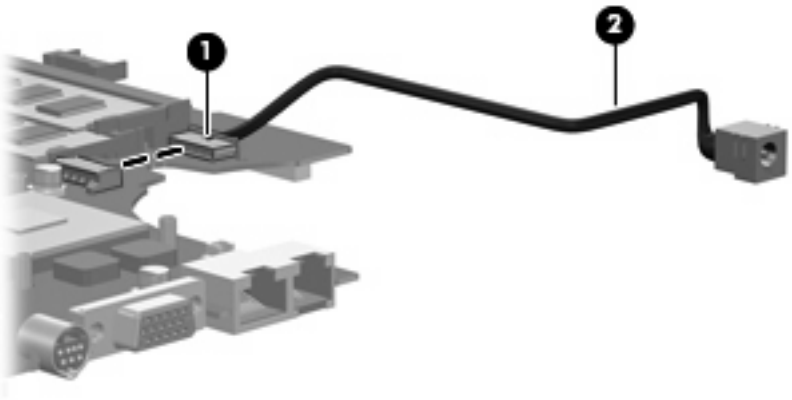
Description	Spare part number
Power connector cable	454945-001

Before removing the power connector cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 40).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 41)
   b. Optical drive (see Optical drive on page 48)
   c. Keyboard (see Keyboard on page 50)
   d. Switch cover (see Switch cover on page 53)
   e. Display assembly (see Display assembly on page 55)
   f. Top cover (see Top cover on page 62)
   g. System board (see System board on page 72)

Remove the power connector cable:

1. Turn the system board upside down, with the external monitor connector toward you.
2. Disconnect the power connector cable **(1)** from the system board.
3. Remove the power connector cable **(2)**.



Reverse this procedure to install the power connector cable.

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5 Setup Utility

⚠ **WARNING!** Only authorized technicians trained by HP must repair this equipment. All troubleshooting and repair procedures are detailed to allow repair at only the subassembly or module level. Because of the complexity of the individual boards and subassemblies, do not attempt to make repairs at the component level or modify any printed wiring board. Improper repairs can create a safety hazard. Any indication of component replacement or printed wiring board modification may void any warranty or exchange allowances.

Starting the Setup Utility

The Setup Utility is a ROM-based information and customization utility that can be used even when your Windows® operating system is not working or will not load.

NOTE: The fingerprint reader (select models only) does not work when accessing the Setup Utility.

The utility reports information about the computer and provides settings for startup, security, and other preferences.

To start the Setup Utility:

1. Turn on or restart the computer.
2. Before Windows opens and while “Press <F10> to enter setup” is displayed in the lower-left corner of the screen, press f10.

Changing the language of the Setup Utility

The following procedure explains how to change the language of the Setup Utility. If the Setup Utility is not already running, begin at step 1. If the Setup Utility is already running, begin at step 2.

1. To start the Setup Utility, turn on or restart the computer, and then press f10 while “Press <F10> to enter setup” is displayed in the lower-left corner of the screen.
2. Use the arrow keys to select **System Configuration > Language**, and then press enter.
3. Press f5 or f6 (or use the arrow keys) to select a language, and then press enter to select a language.
4. When a confirmation prompt with your preference selected is displayed, press enter to save your preference.
5. To set your preferences and exit the Setup Utility, press f10 and then follow the instructions on the screen.

Your preferences go into effect when the computer restarts in Windows.

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Navigating and selecting in the Setup Utility

Because the Setup Utility is not Windows-based, it does not support the TouchPad. Navigation and selection are by keystroke.

- To choose a menu or a menu item, use the arrow keys.
- To choose an item in a drop-down list or to toggle a field, for example an Enable/Disable field, use either the arrow keys or f5 or f6.
- To select an item, press enter.
- To close a text box or return to the menu display, press esc.
- To display additional navigation and selection information while the Setup Utility is open, press f1.

Displaying system information

The following procedure explains how to display system information in the Setup Utility. If the Setup Utility is not open, begin at step 1. If the Setup Utility is open, begin at step 2.

1. To start the Setup Utility, turn on or restart the computer, and then press f10 while "Press <F10>to enter setup" is displayed in the lower-left corner of the screen.
2. Access the system information by using the **Main** menu.
3. To exit the Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter. (The computer restarts in Windows.)

Restoring default settings in the Setup Utility

The following procedure explains how to restore the Setup Utility default settings. If the Setup Utility is not already running, begin at step 1. If the Setup Utility is already running, begin at step 2.

1. To start the Setup Utility, turn on or restart the computer, and then press f10 while "Press <F10>to enter setup" is displayed in the lower-left corner of the screen.
2. Select **Exit > Load Setup Defaults**, and then press enter.
3. When the Setup Confirmation is displayed, press enter to save your preferences.
4. To set your preferences and exit the Setup Utility, press f10, and then follow the instructions on the screen.

The Setup Utility default settings are set when you exit the Setup Utility and go into effect when the computer restarts.

NOTE: Your password, security, and language settings are not changed when you restore the factory default settings.

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Using advanced Setup Utility features

This section describes the Setup Utility features recommended for all users. For more information about the Setup Utility features recommended for advanced users only, refer to Help and Support, which is accessible only when the computer is in Windows.

The Setup Utility features available for advanced users include a hard drive self-test, a Network Service Boot, and settings for boot order preferences.

The "<F12> to boot from LAN" message that is displayed in the lower-left corner of the screen each time the computer is started or restarted in Windows is the prompt for a Network Service Boot.

The "Press <F9> to change boot order" message that is displayed in the lower-left corner of the screen each time the computer is started or restarted in Windows is the prompt to change the boot order.

Closing the Setup Utility

You can close the Setup Utility with or without saving changes.

- To close the Setup Utility and save your changes from the current session, use either of the following procedures:
  - Press f10, and then follow the instructions on the screen.

    – or –
  - If the Setup Utility menus are not visible, press esc to return to the menu display. Then use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

    When you use the f10 procedure, you are offered an option to return to the Setup Utility. When you use the Exit Saving Changes procedure, the Setup Utility closes when you press enter.
- To close the Setup Utility without saving your changes from the current session:

  If the Setup Utility menus are not visible, press esc to return to the menu display. Then use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter.

After the Setup Utility closes, the computer restarts in Windows.

Setup Utility menus

The menu tables in this section provide an overview of Setup Utility options.

NOTE: Some of the Setup Utility menu items listed in this section may not be supported by your computer.

Main menu

Select	To do this
System information	• View and change the system time and date. • View identification information about the computer. • View specification information about the processor, memory size, system BIOS, and keyboard controller version (select models only).

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Security menu

Select	To do this
Administrator password	Enter, change, or delete an administrator password.
Power-On Password	Enter, change, or delete a power-on password.

System Configuration menu

Select	To do this
Language Support	Change the Setup Utility language.
Enhanced SATA support (select models only)	Enable/disable enhanced SATA mode.
Boot Options	Set the following boot options: • f10 and f12 Delay (sec.)—Set the delay for the f10 and f12 functions of the Setup Utility in intervals of 5 seconds each (0, 5, 10, 15, 20). • CD-ROM boot—Enable/disable boot from CD-ROM. • Floppy boot—Enable/disable boot from Floppy. • Internal Network Adapter boot—Enable/disable boot from Internal Network Adapter. • Boot Order—Set the boot order for: ◦ USB Floppy ◦ ATAPI CD/DVD ROM Drive ◦ Hard drive ◦ USB Diskette on Key ◦ USB Hard drive ◦ Network adapter
Button Sound (select models only)	Enable/disable the Quick Launch Button tapping sound.
Virtualization Technology	Enable/disable the processor Virtualization Technology.
Processor C4 State	Enable/disable the processor C4 sleep state.

Diagnostics menu

Select	To do this
Hard Drive Self Test	Run a comprehensive self-test on the hard drive. **NOTE:** On models with two hard drives, this menu option is called the **Primary Hard Disk Self Test**.
Secondary Hard Drive Self Test (select models only)	Run a comprehensive self-test on a secondary hard drive.
Memory Test	Run a diagnostic test on the system memory.

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6 Specifications

Computer specifications

	Metric	U.S.
Dimensions		
Length	25.7 cm	10.12 in
Width	35.7 cm	14.06 in
Height (front to rear	3.28 to 4.03 cm	1.29 to 1.59 in
Weight (with optical drive, hard drive, and battery)	2.9 kg	6.39 lbs
Input power		
Operating voltage	18.5 V dc —19.0 V dc	
Operating current	3.5 A or 4.74 A	
Temperature		
Operating (not writing to optical disc)	0°C to 35°C	32°F to 95°F
Operating (writing to optical disc)	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
Operating (14.7 to 10.1 psia)	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating (14.7 to 4.4 psia)	-15 m to 12,192 m	-50 ft to 40,000 ft
Shock		
Operating	125 g, 2 ms, half-sine	
Nonoperating	200 g, 2 ms, half-sine	
Random vibration		
Operating	0.75 g zero-to-peak, 10 Hz to 500 Hz, 0.25 oct/min sweep rate	

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	Metric	U.S.
Nonoperating	1.50 g zero-to-peak, 10 Hz to 500 Hz, 0.5 oct/min sweep rate	

NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates well within this range of temperatures.

15.4-inch, WSXGA, BrightView display specifications

	Metric	U.S.
Dimensions		
Height	20.7 cm	8.15 in
Width	33.1 cm	13.03 in
Diagonal	39.1 cm	15.39 in
Number of colors	Up to 16.8 million	
Contrast ratio	200:1 (typical)	
Brightness	180 nits (typical)	
Pixel resolution		
Pitch	0.197 × 0.197 mm	
Format	1680× 1050	
Configuration	RGB vertical stripe	
Backlight	Cold cathode fluorescent tube (CCFT)	
Character display	80 × 25	
Total power consumption	7.0 W	
Viewing angle	+/-40° horizontal, +-50° vertical (typical)	

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Hard drive specifications

	160-GB*	120-GB*	80-GB*
Dimensions			
Height	9.5 mm	9.5 mm	9.5 mm
Width	70 mm	70 mm	70 mm
Weight	102 g	102 g	102 g
Interface type	SATA	SATA	SATA
Transfer rate			
Synchronous (maximum)	100 MB/sec	100 MB/sec	100 MB/sec
Security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)			
Single track	3 ms	3 ms	3 ms
Average	13 ms	13 ms	13 ms
Maximum	24 ms	24 ms	24 ms
Logical blocks	312,581,808	237,937,274	158,624,849
Disk rotational speed	5400 rpm		
Operating temperature	5°C to 55°C (41°F to 131°F)		

NOTE: Certain restrictions and exclusions apply. Consult technical support for details.

*1 GB = 1 billion bytes when referring to hard drive storage capacity. Accessible capacity is less. Actual drive specifications may differ slightly.

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DVD±RW and CD-RW Super Multi Double-Layer Combo Drive specifications

Applicable disc	**Read:**	**Write:**
	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD +RW, DVD-RAM	CD-R and CD-RW DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM
Access time	**CD**	**DVD**
Random	< 175 ms	< 230 ms
Cache buffer	2 MB	
Data transfer rate		
24X CD-ROM	3,600 KB/sec	
8X DVD	10,800 KB/sec	
24X CD-R	3,600 KB/sec	
16X CD-RW	2,400 KB/sec	
8X DVD+R	10,800 KB/sec	
4X DVD+RW	5,400 KB/sec	
8X DVD-R	10,800 KB/sec	
4X DVD-RW	5,400 KB/sec	
2.4X DVD+R(9)	2,700 KB/sec	
5X DVD-RAM	6,750 KB/sec	
Transfer mode	Multiword DMA Mode	

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System DMA specifications

Hardware DMA	System function
DMA0	Not applicable
DMA1*	Not applicable
DMA2*	Not applicable
DMA3	Not applicable
DMA4	Direct memory access controller
DMA5*	Available for PC Card
DMA6	Not assigned
DMA7	Not assigned
*PC Card controller can use DMA 1, 2, or 5.	

System memory map specifications

Size	Memory address	System function
640 KB	00000000-0009FFFF	Base memory
128 KB	000A0000-000BFFFF	Video memory
48 KB	000C0000-000CBFFF	Video BIOS
160 KB	000C8000-000E7FFF	Unused
64 KB	000E8000-000FFFFF	System BIOS
15 MB	00100000-00FFFFFF	Extended memory
58 MB	04800000-07FFFFFF	Super extended memory
58 MB	04800000-07FFFFFF	Unused
2 MB	08000000-080FFFFF	Video memory (direct access)
4 GB	08200000-FFFEFFFF	Unused
64 KB	FFFF0000-FFFFFFFF	System BIOS

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System interrupt specifications

Hardware IRQ	System function
IRQ0	System timer
IRQ1	Standard 101-/102-Key or Microsoft® Natural Keyboard
IRQ2	Cascaded
IRQ3	Intel 82801DB/DBM USB2 Enhanced Host Controller—24CD
IRQ4	COM1
IRQ5*	Conexant AC—Link Audio Intel 82801DB/DBM SMBus Controller—24C3 Data Fax Modem with SmartCP
IRQ6	Diskette drive
IRQ7*	Parallel port
IRQ8	System CMOS/real-time clock
IRQ9*	Microsoft ACPI-compliant system
IRQ10*	Intel USB UHCI controller—24C2 Intel 82852/82855 GM/GME Graphic Controller Realtek RTL8139 Family PCI Fast Ethernet Controller
IRQ11	Intel USB EHCI controller—24CD Intel USB UHCI controller—24C4 Intel USB UHCI controller—24C7 Intel Pro/Wireless 2200BG TI OHCI 1394 host controller TI PCI1410 CardBus controller
IRQ12	Synaptics PS/2 TouchPad
IRQ13	Numeric data processor
IRQ14	Primary IDE channel
IRQ15	Secondary IDE channel
*Default configuration; audio possible configurations are IRQ5, IRQ7, IRQ9, IRQ10, or none.	
NOTE: PC Cards may assert IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, or IRQ15. Either the infrared or the serial port may assert IRQ3 or IRQ4.	

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System I/O address specifications

I/O address (hex)	System function (shipping configuration)
000 - 00F	DMA controller no. 1
010 - 01F	Unused
020 - 021	Interrupt controller no. 1
022 - 024	Opti chipset configuration registers
025 - 03F	Unused
02E - 02F	87334 "Super I/O" configuration for CPU
040 - 05F	Counter/timer registers
044 - 05F	Unused
060	Keyboard controller
061	Port B
062 - 063	Unused
064	Keyboard controller
065 - 06F	Unused
070 - 071	NMI enable/RTC
072 - 07F	Unused
080 - 08F	DMA page registers
090 - 091	Unused
092	Port A
093 - 09F	Unused
0A0 - 0A1	Interrupt controller no. 2
I/O Address (hex)	System function (shipping configuration)
0A2 - 0BF	Unused
0C0 - 0DF	DMA controller no. 2
0E0 - 0EF	Unused
0F0 - 0F1	Coprocessor busy clear/reset
0F2 - 0FF	Unused
100 - 16F	Unused
170 - 177	Secondary fixed disk controller
178 - 1EF	Unused
1F0 - 1F7	Primary fixed disk controller
1F8 - 200	Unused
201	JoyStick (decoded in ESS1688)
202 - 21F	Unused

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I/O address (hex)	System function (shipping configuration)
220 - 22F	Entertainment audio
230 - 26D	Unused
26E - 26	Unused
278 - 27F	Unused
280 - 2AB	Unused
2A0 - 2A7	Unused
2A8 - 2E7	Unused
2E8 - 2EF	Reserved serial port
2F0 - 2F7	Unused
2F8 - 2FF	Infrared port
300 - 31F	Unused
320 - 36F	Unused
370 - 377	Secondary diskette drive controller
378 - 37F	Parallel port (LPT1/default)
380 - 387	Unused
388 - 38B	FM synthesizer—OPL3
38C - 3AF	Unused
3B0 - 3BB	VGA
3BC - 3BF	Reserved (parallel port/no EPP support)
3C0 - 3DF	VGA
3E0 - 3E1	PC Card controller in CPU
3E2 - 3E3	Unused
3E8 - 3EF	Internal modem
3F0 - 3F7	"A" diskette controller
3F8 - 3FF	Serial port (COM1/default)
CF8 - CFB	PCI configuration index register (PCIDIVO-1)
CFC - CFF	PCI configuration data register (PCIDIVO-1)

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7 Screw listing

This section provides specification and reference information for the screws and screw locks used in the computer. All screws and screw locks listed in this section are available in the Screw Kit, spare part number 454951-001, and the Display Screw Kit, spare part number 454918-001.

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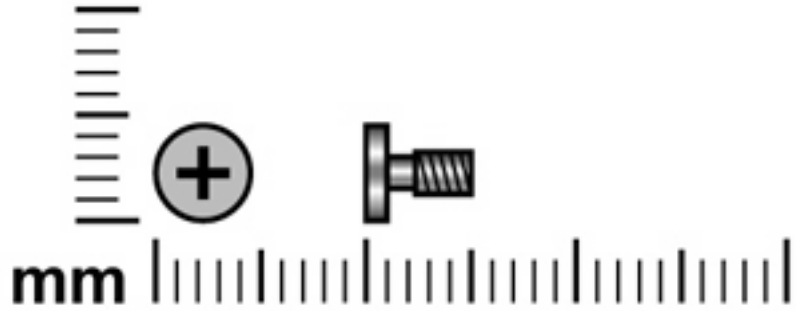
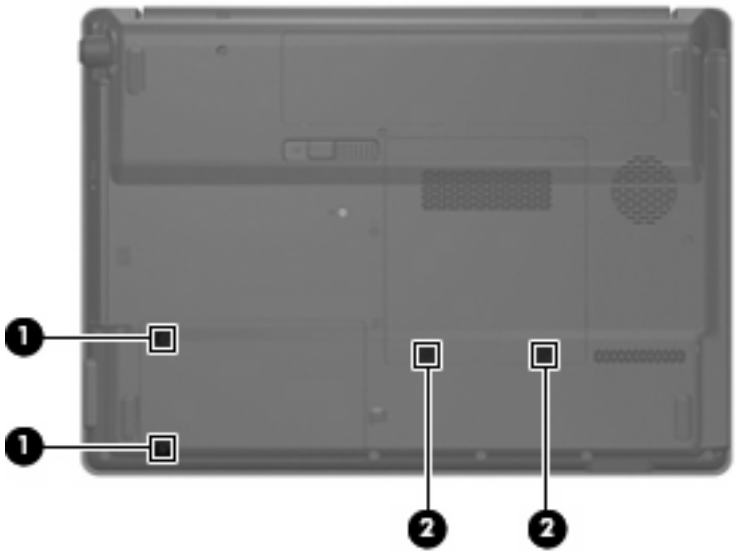
Phillips PM2.0×5.0 captive screw



Color	Quantity	Length	Thread	Head diameter
Black	4	5.0 mm	2.0 mm	5.0 mm



Where used:

(1) Two captive screws (secured by C-clips) that secure the hard drive bay cover to the computer

(2) Two captive screws (secured by C-clips) that secure the memory/wireless module compartment cover to the computer

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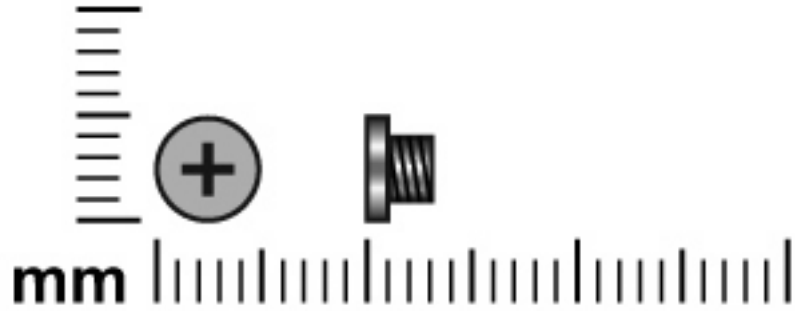
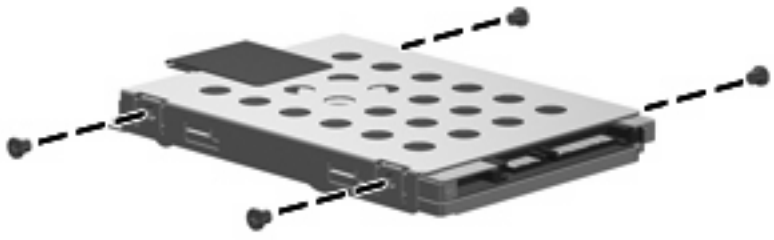
Phillips PM3.0×3.0 screw



Color	Quantity	Length	Thread	Head diameter
Silver	4	3.0 mm	3.0 mm	5.0 mm



Where used: 4 screws that secure the hard drive bracket to the hard drive

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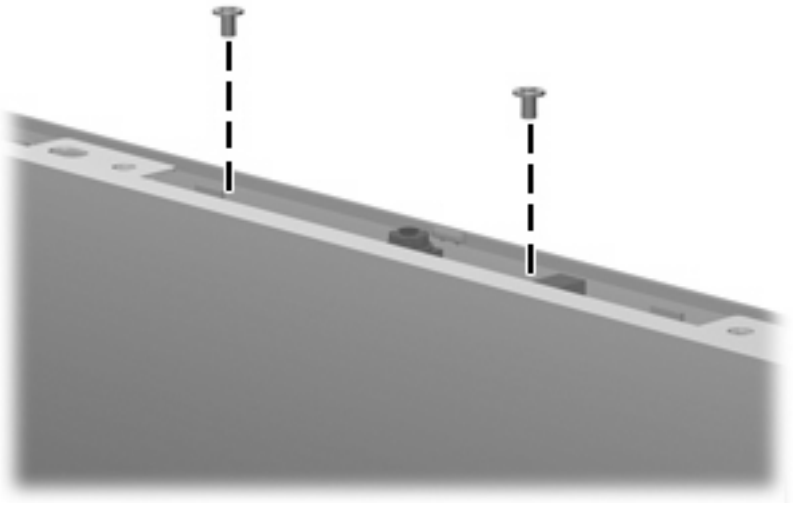
Black Phillips PM2.0×3.0 screw

Color	Quantity	Length	Thread	Head diameter
Black	2	3.0 mm	2.0 mm	4.0 mm



Where used: 2 screws that secure the camera module to the display

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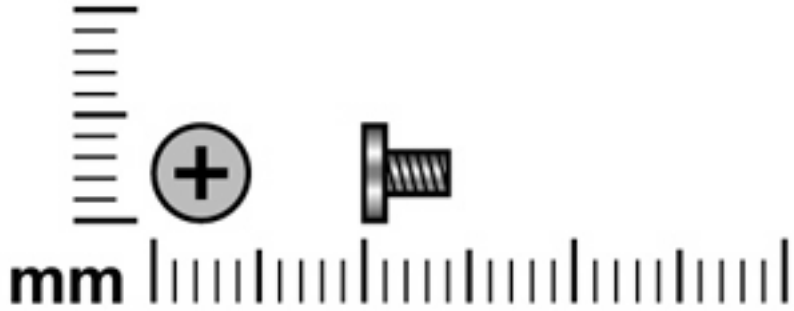
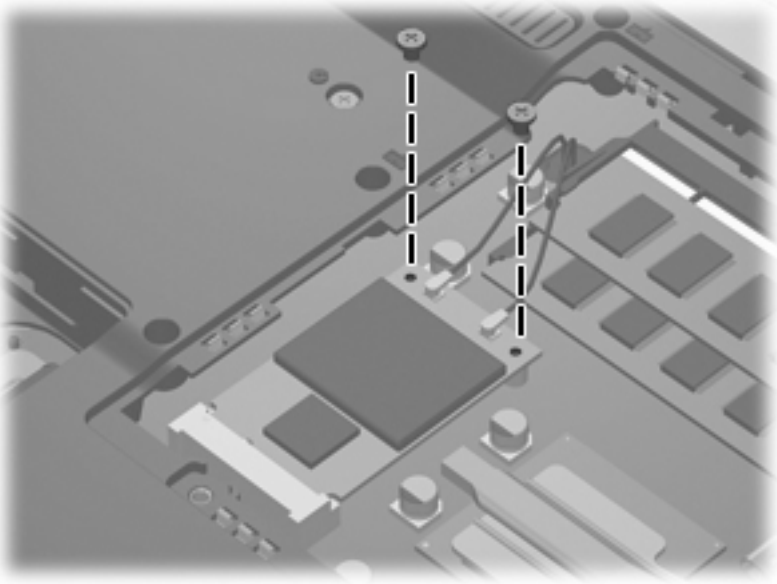
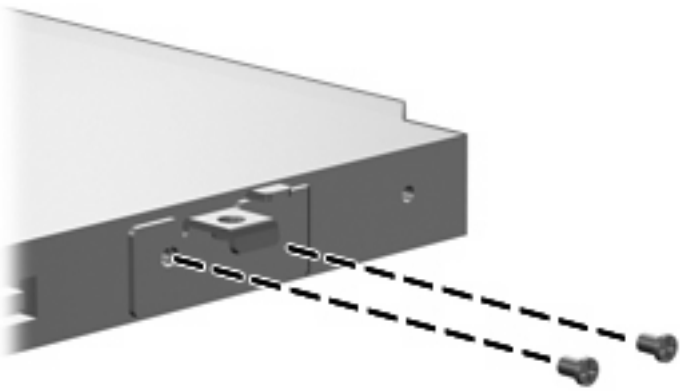
Black Phillips PM2.0×4.0 screw



Color	Quantity	Length	Thread	Head diameter
Black	8	4.0 mm	2.0 mm	5.0 mm



Where used: 2 screws that secure the WLAN module to the system board



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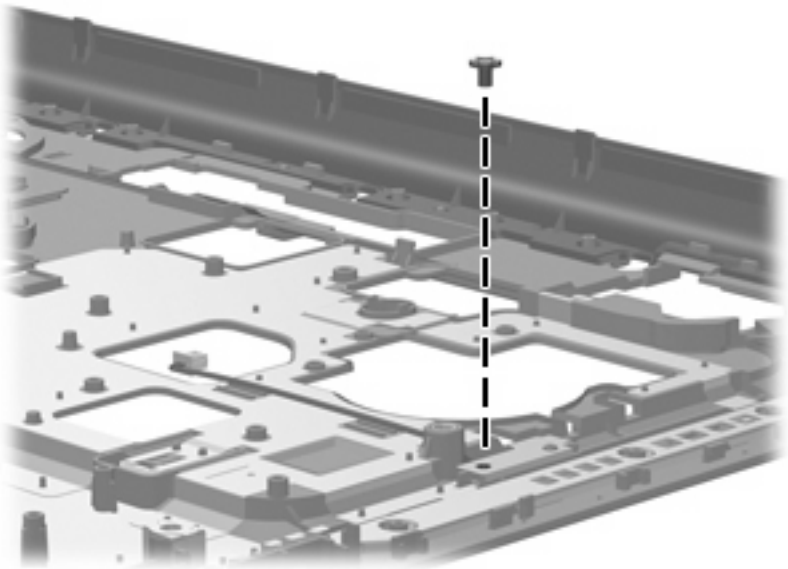
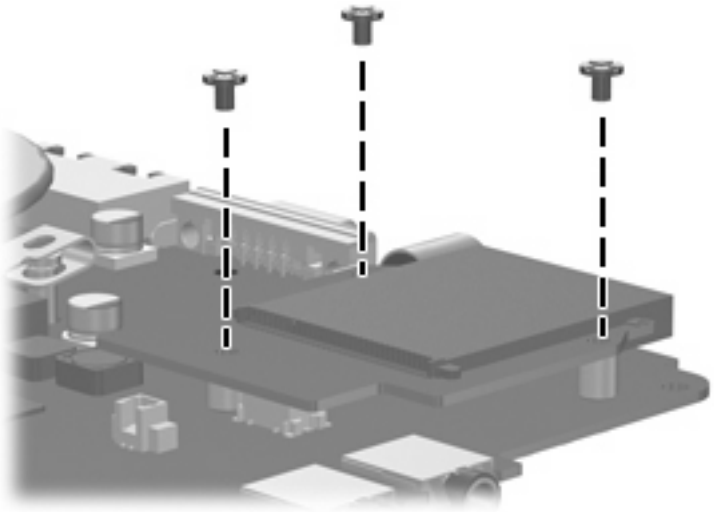
Where used: 2 screws that secure the optical drive bracket to the optical drive



Where used: One screw that secures the caps lock LED board to the top cover



Where used: 3 screws that secure the card reader board to the system board

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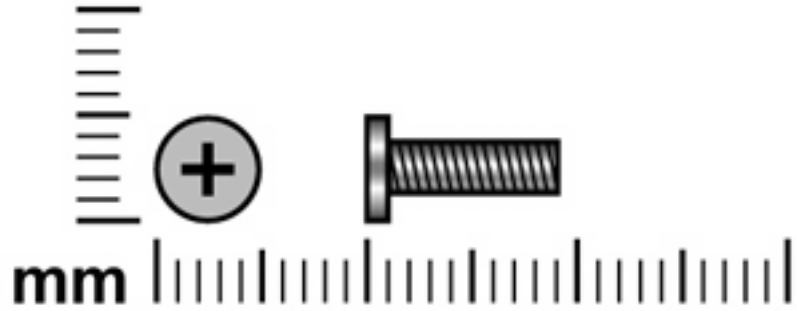
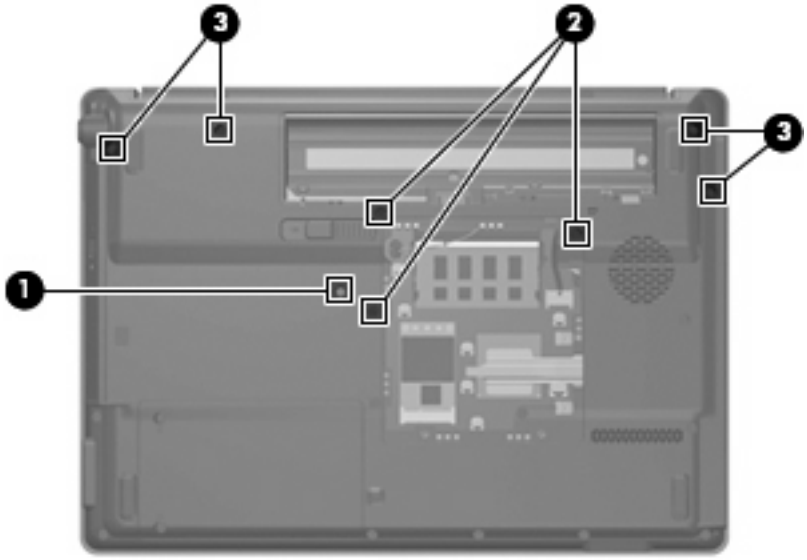
Phillips PM2.5×9.0 screw



Color	Quantity	Length	Thread	Head diameter
Black	22	9.0 mm	2.5 mm	5.0 mm



Where used:

(1) One screw that secures the optical drive to the computer

(2) Three screws that secure the keyboard to the computer

(3) Four screws that secure the switch cover to the computer

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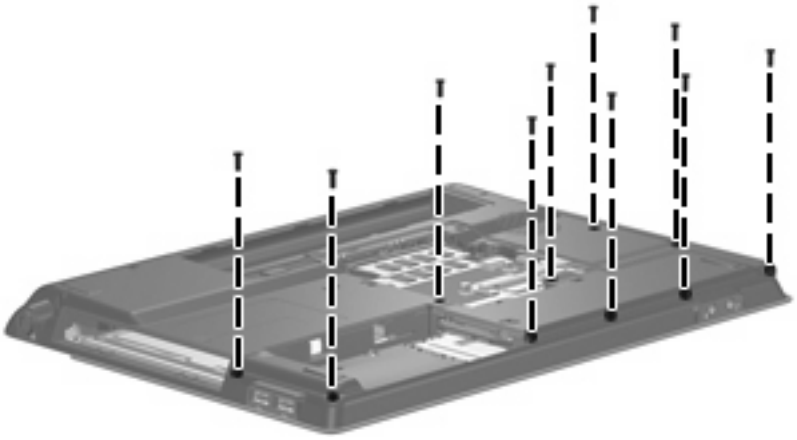
Where used: 4 screws that secure the display assembly to the computer



Where used: Ten screws that secure the top cover to the base enclosure

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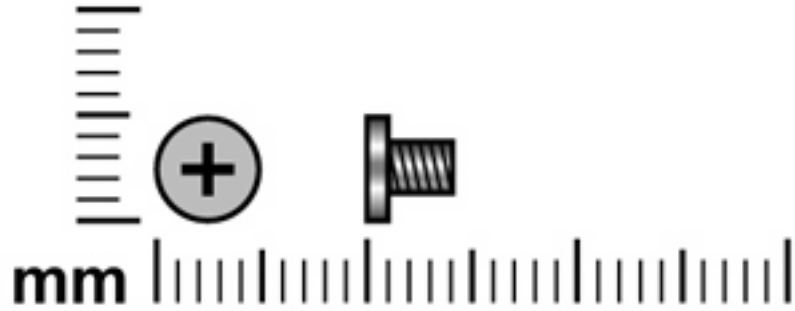
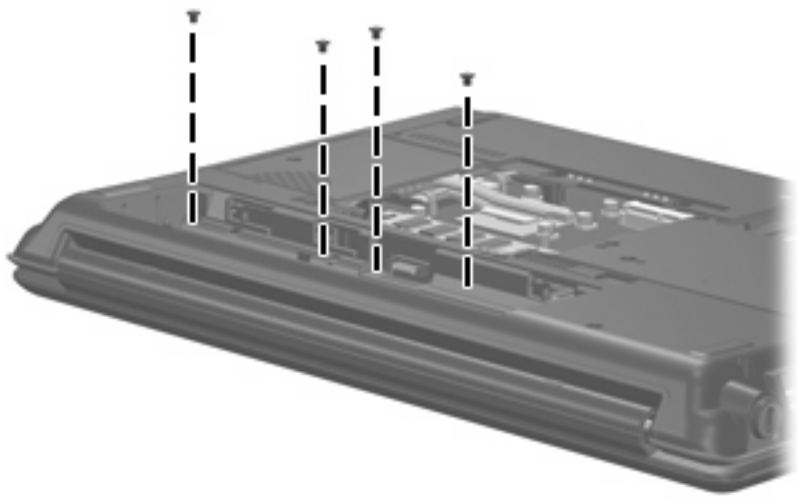
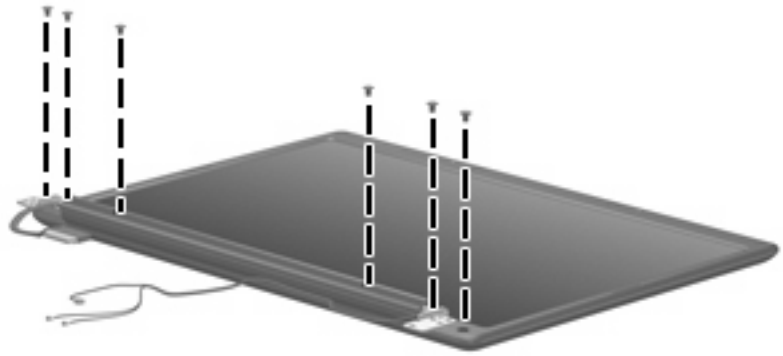
Phillips PM2.5×4.0 screw



Color	Quantity	Length	Thread	Head diameter
Black	19	4.0 mm	2.5 mm	5.0 mm



Where used: 4 screws that secure the switch cover to the computer



Where used: 6 screws that secure the display panel to the display enclosure

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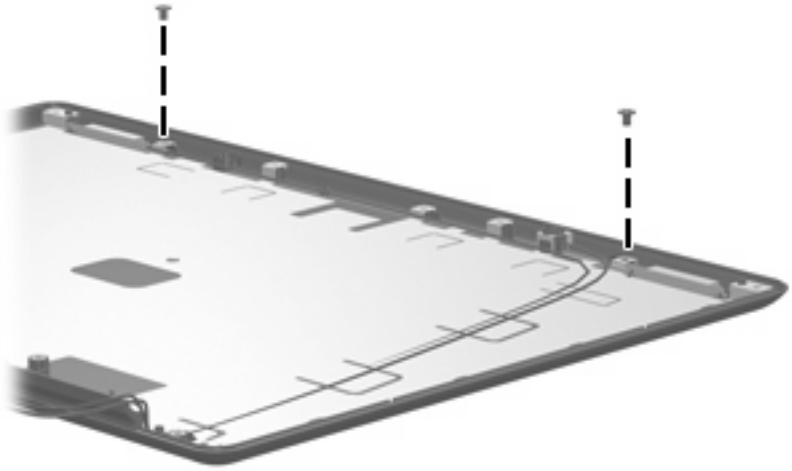
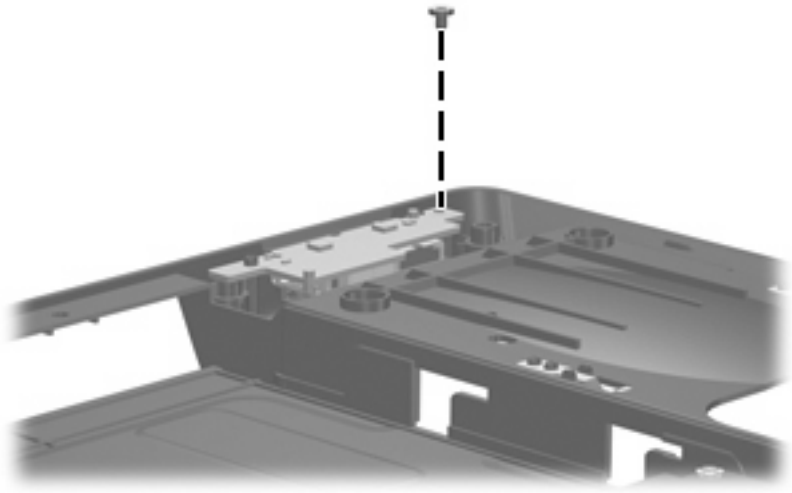


Where used: 2 screws that secure the wireless antenna transceivers to the display enclosure

Where used: 2 screws that secure the top cover to the base enclosure



Where used: One screw that secures the USB board to the base enclosure

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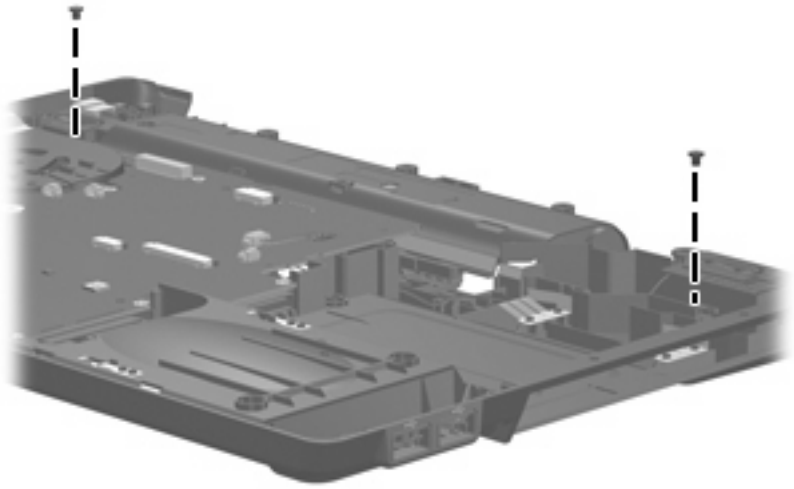
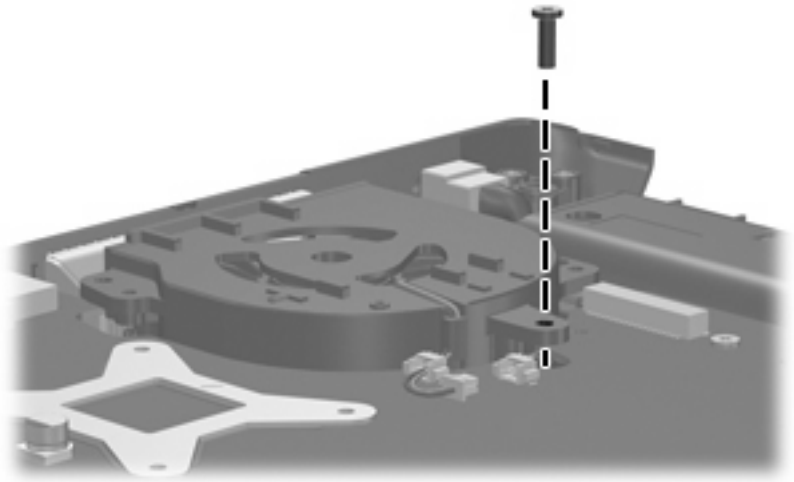
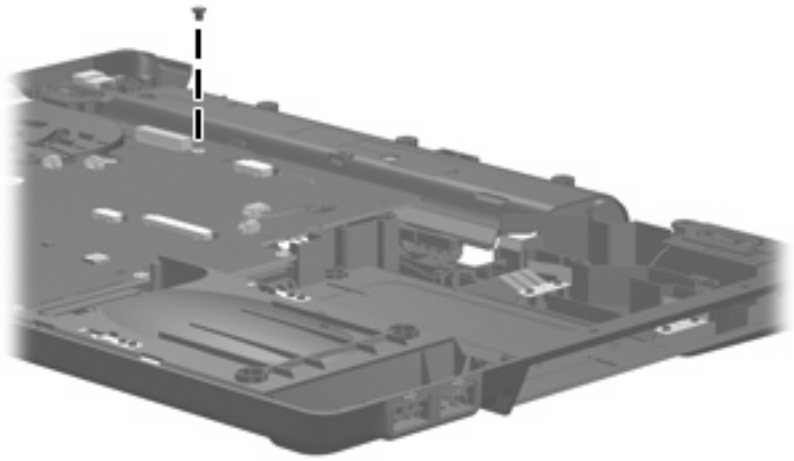


Where used: 2 screws that secure the speakers to the base enclosure



Where used: One screw that secures the fan to the base enclosure



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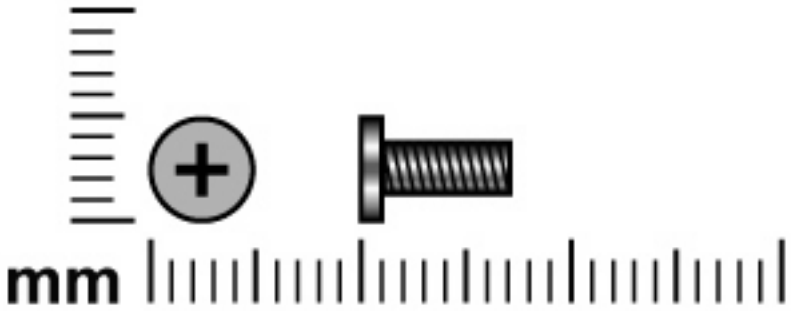
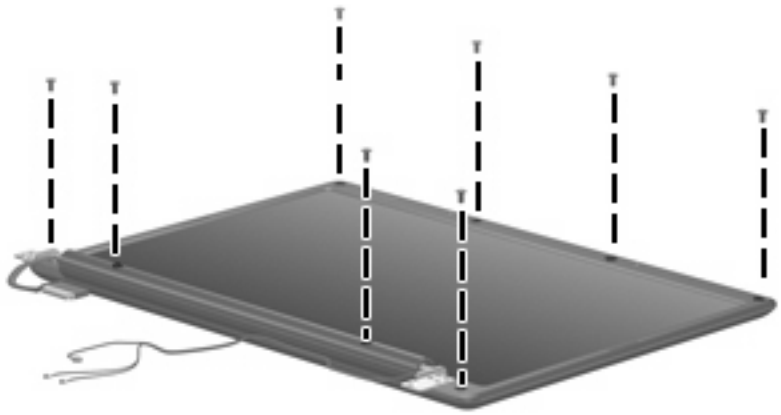
Where used: One screw that secures the system board to the base enclosure

Phillips PM2.5×7.0 screw



Color	Quantity	Length	Thread	Head diameter
Silver	8	7.0 mm	2.5 mm	5.0 mm



Where used: 8 screws that secure the display bezel to the display assembly

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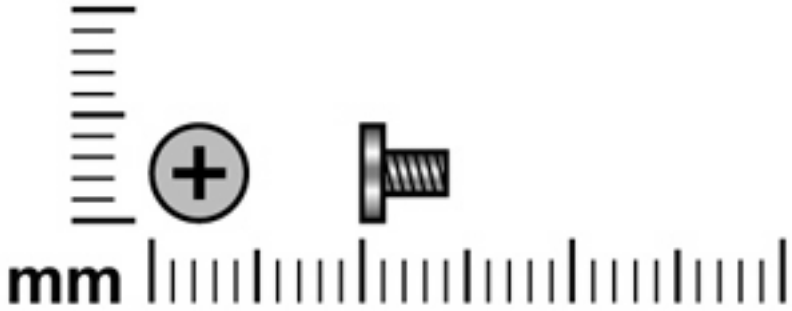
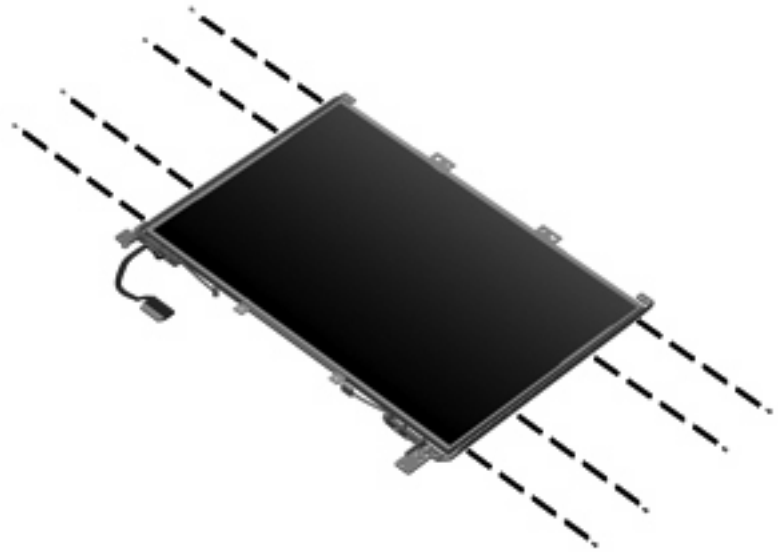
Silver Phillips PM2.0×4.0 screw



Color	Quantity	Length	Thread	Head diameter
Silver	8	4.0 mm	2.0 mm	4.5 mm



Where used: 8 screws that secure the display hinges to the display panel

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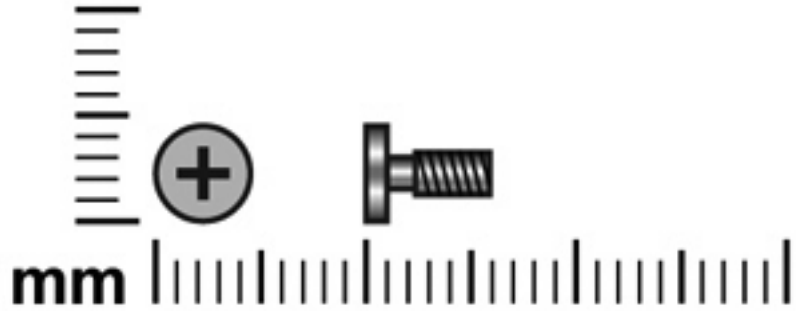
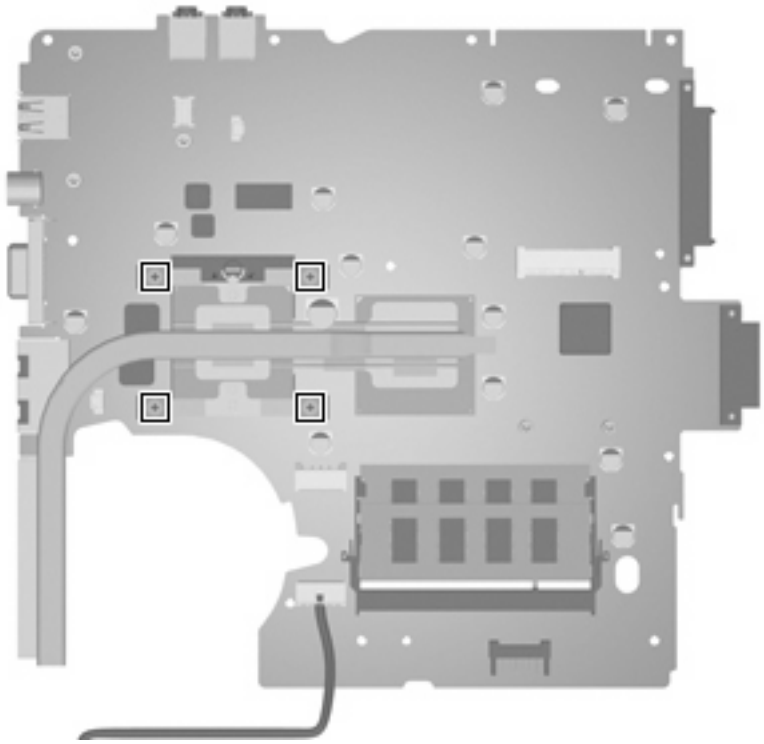
Phillips PM2.5×6.0 captive screw



Color	Quantity	Length	Thread	Head diameter
Silver	4	6.0 mm	2.5 mm	5.0 mm



Where used: 4 screws that secure the heat sink to the system board

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8 Backup and recovery

Recovering system information

Tools provided by the operating system and Recovery Manager software are designed to help you with the following tasks for safeguarding your information and restoring it in case of a system failure:

- Backing up your information regularly to protect your important system files.
- Making a set of recovery discs (Recovery Manager software feature). Recovery discs are used to start up (boot) your computer and restore the operating system and software programs to factory settings in case of system failure or instability.
- Creating system restore points (operating system feature). System restore points allow you to reverse undesirable changes to your computer by restoring the computer to an earlier state.
- Recovering a program or driver (Recovery Manager software feature). This feature helps you reinstall a program or driver without performing a full system recovery.
- Performing a full system recovery (Recovery Manager software feature). With Recovery Manager, you can recover your full factory image if you experience system failure or instability. Recovery Manager works from a dedicated recovery partition on the hard drive or from recovery discs you create.

Backing up your information

When to back up

- On a regularly scheduled basis

NOTE: Set reminders to back up your information periodically.

- Before the computer is repaired or restored
- Before you add or modify hardware or software

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Backup suggestions

- Create a set of recovery discs using Recovery Manager.
- Create system restore points using the Windows® System Restore feature, and periodically copy them to disc.
- Store personal files in the Documents folder and back up these folders periodically.
- Back up templates stored in their associated programs.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings.

  The screen shot can be a time saver if you have to reset your preferences.

  To copy the screen and paste it into a word-processing document:

  a. Display the screen.

  b. Copy the screen:

  To copy only the active window, press alt+fn+prt sc.

  To copy the entire screen, press fn+prt sc.

  c. Open a word-processing document, and then select **Edit > Paste**.

Using system restore points

When you back up your system, you are creating a system restore point. A system restore point allows you to save and name a snapshot of your hard drive at a specific point in time. You can then recover back to that point if you want to reverse subsequent changes made to your system.

NOTE: Recovering to an earlier restore point does not affect data files saved or e-mails created since the last restore point.

You also can create additional restore points to provide increased protection for your system files and settings.

When to create restore points

- Before you add or extensively modify software or hardware.
- Periodically, whenever the system is performing optimally.

NOTE: If you revert to a restore point and then change your mind, you can reverse the restoration.

Create a system restore point

1. Select **Start > Control Panel > System and Maintenance > System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Under Automatic restore points, select the disk for which you want to create a restore point.
5. Click **Create**.

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The System Protection window opens.

6. Follow the on-screen instructions.

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Restore to a previous date and time

To revert to a restore point (created at a previous date and time), when the computer was functioning optimally, follow these steps:

1. Select **Start > Control Panel > System and Maintenance > System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Click the **System Restore** button, and then click **Next**.

   The System Restore window opens.
5. Follow the on-screen instructions.

Creating recovery discs

After setting up the computer for the first time, be sure to create a set of recovery discs of the full factory image. The recovery discs are used to start up (boot) the computer and recover the operating system and software to factory settings in case of system instability or failure.

NOTE: Handle these discs carefully and keep them in a safe place. The software allows the creation of only one set of recovery discs.

Note the following guidelines before creating recovery discs:

- Use any of the following types of discs: CD-R, DVD+R, DVD+R DL, DVD-R, or DVD-R DL (purchased separately). The discs you use will depend on the type of optical drive installed in your computer. Because DVDs store more information than CDs, DVDs and DVDs with double-layer (DL) support reduce the number of discs required.

  NOTE: Read-write discs, such as CD-RW, DVD+RW, and DVD-RW, are not compatible with the Recovery Manager software.
- The computer must be connected to AC power during this process.
- Only one set of recovery discs can be created per computer.
- Number each disc before inserting it into the computer optical drive.
- If necessary, you can exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you will be prompted to continue the disc creation process.

To create a set of recovery discs:

1. Select **Start > All Programs > Recovery Manager > Recovery Manager**.

   Recovery Manager opens.
2. Click **Advanced Options**.

   NOTE: If you are operating the computer on battery power, you will be prompted to connect to AC power before you can go to the next step.
3. Click **Recovery disc creation**, and then click **Next**.
4. Follow the on-screen instructions.

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Performing a recovery

NOTE: You can only recover files that you have previously backed up. HP recommends that you use Recovery Manager to create an entire drive backup as soon as you set up your computer.

Recovery Manager software allows you to repair or restore the system if you experience system failure or instability. Recovery Manager works from recovery discs that you create or from a dedicated recovery partition on the hard drive.

NOTE: Windows has its own built-in repair features, such as System Restore and driver rollback capabilities. If you have not already tried these features, try them before using Recovery Manager.

NOTE: Recovery Manager only recovers software that was preinstalled at the factory. Software not provided with this computer must be reinstalled from the disc provided by the manufacturer or downloaded from the manufacturer's Web site.

Recovering from the recovery discs

To restore the system from the recovery discs:

1. Back up all personal files.
2. Insert the first recovery disc into the optical drive and restart the computer.
3. Follow the on-screen instructions.

Recovering from the partition on the hard drive

You can perform a recovery from the partition on the hard drive from either the Start button or f11.

To restore the system from the partition, follow these steps:

1. Access Recovery Manager in either of the following ways:
   - Select **Start > All Programs > Recovery Manager > Recovery Manager**.

     – or –

   - Restart the computer and press f11 while the "Press <F11> for recovery" message is displayed on the screen. Then select **Recovery Manager**.

   Recovery Manager opens.
2. Click **Advanced Options**.
3. Click **System recovery**, and then click **Next**.
4. Follow the on-screen instructions.

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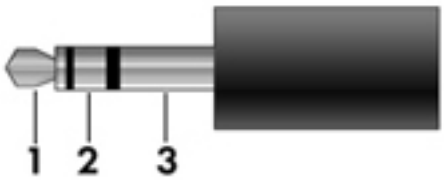
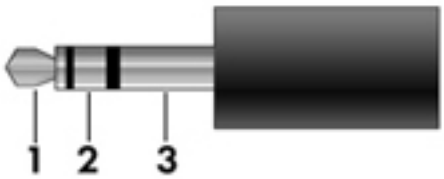
9 Connector pin assignments

Audio-out (headphone)



Pin	Signal
1	Audio out, left channel
2	Audio out, right channel
3	Ground

Audio-in (microphone)



Pin	Signal
1	Audio signal in
2	Audio signal in
3	Ground

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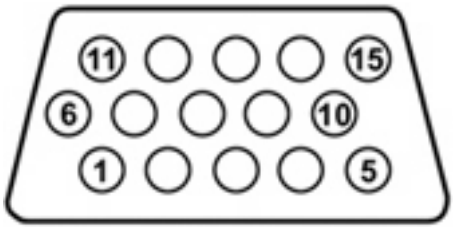
External monitor



Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

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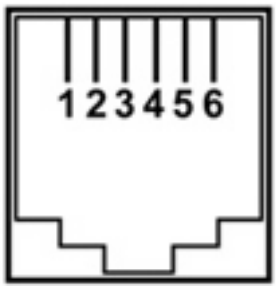
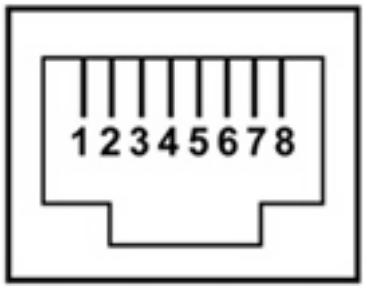
RJ-11 (modem)



Pin	Signal
1	Unused
2	Tip
3	Ring
4	Unused
5	Unused
6	Unused

RJ-45 (network)



Pin	Signal
1	Transmit +
2	Transmit -
3	Receive +
4	Unused
5	Unused
6	Receive -
7	Unused
8	Unused

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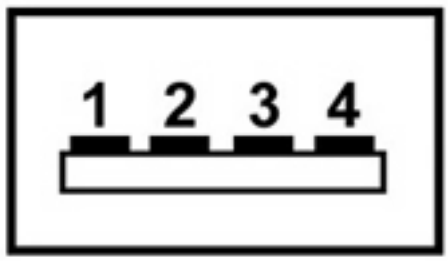
S-Video-out

Pin	Signal
1	S-VHS color (C) signal
2	Composite video signal
3	S-VHS intensity (Y) signal
4	S-VHS color ground
5	TV-CD
6	S-VHS intensity ground
7	Composite video ground

Universal Serial Bus



Pin	Signal
1	+5 VDC
2	Data -
3	Data +
4	Ground

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10 Power cord set requirements

The wide range input feature of the computer permits it to operate from any line voltage from 100 to 120 volts AC or from 220 to 240 volts AC.

The 3-conductor power cord set included with the computer meets the requirements for use in the country or region where the equipment is purchased.

Power cord sets for use in other countries or regions must meet the requirements of the country or region where the computer is used.

Requirements for all countries or regions

The requirements listed below are applicable to all countries or regions:

- The length of the power cord set must be at least 1.5 m (5.0 ft) and no more than 2.0 m (6.5 ft).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.
- The power cord sets must have a minimum current capacity of 10 amps and a nominal voltage rating of 125 or 250 V AC, as required by each country or region's power system.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

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Requirements for specific countries or regions

Country/region	Accredited agency	Applicable note number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3
South Korea	EK	4
The Netherlands	KEMA	1
Norway	NEMKO	1
The People's Republic of China	CCC	5
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

1. The flexible cord must be Type HO5VV-F, 3-conductor, 1.0-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00-mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.
4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

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11 Recycling

Battery

When a battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for computer battery disposal.

Display

⚠ **WARNING!** The backlight contains mercury. Caution must be exercised when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

△ **CAUTION:** The procedures in this appendix can result in damage to display components. The only components intended for recycling purposes are the liquid crystal display (LCD) panel and the backlight. Careful handling must be exercised when removing these components.

NOTE: **Materials Disposal**. This HP product contains mercury in the backlight in the display assembly that might require special handling at end-of-life. Disposal of mercury may be regulated because of environmental considerations. For disposal or recycling information, contact your local authorities, or see the Electronic Industries Alliance (EIA) Web site at http://www.eiae.org.

This section provides disassembly instructions for the display assembly. The display assembly must be disassembled to gain access to the backlight **(1)** and the liquid crystal display (LCD) panel **(2)**.

NOTE: The procedures provided in this appendix are general disassembly instructions. Specific details, such as screw sizes, quantities, and locations, and component shapes and sizes, can vary from one computer model to another.

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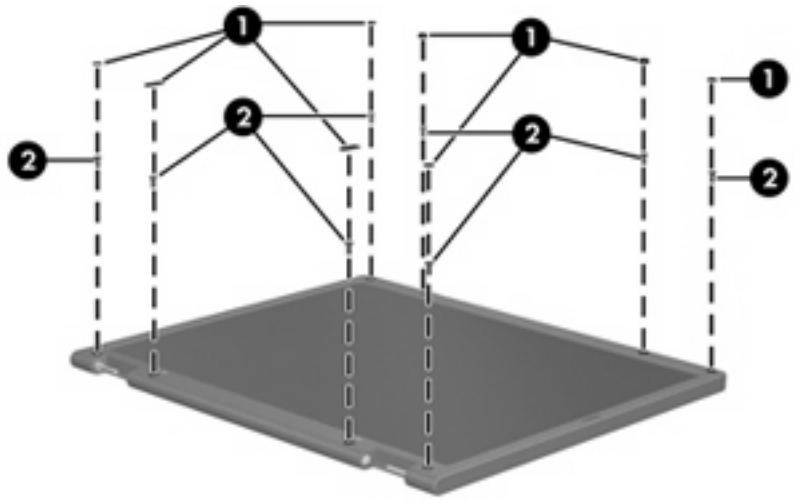
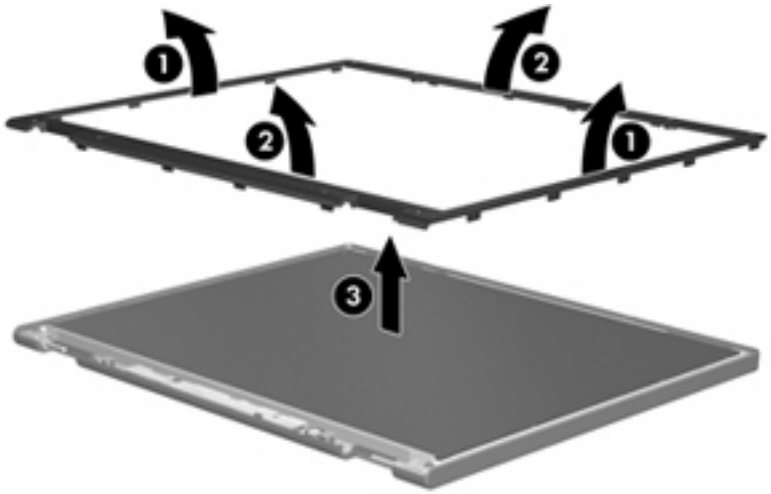
Perform the following steps to disassemble the display assembly:

1. Remove all screw covers **(1)** and screws **(2)** that secure the display bezel to the display assembly.



2. Lift up and out on the left and right inside edges **(1)** and the top and bottom inside edges **(2)** of the display bezel until the bezel disengages from the display assembly.
3. Remove the display bezel **(3)**.



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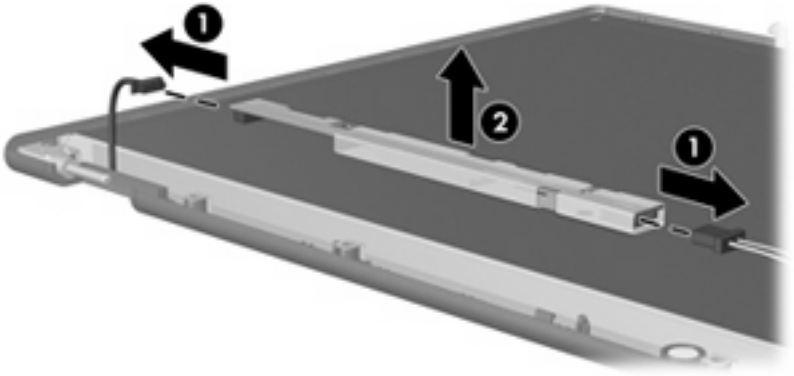
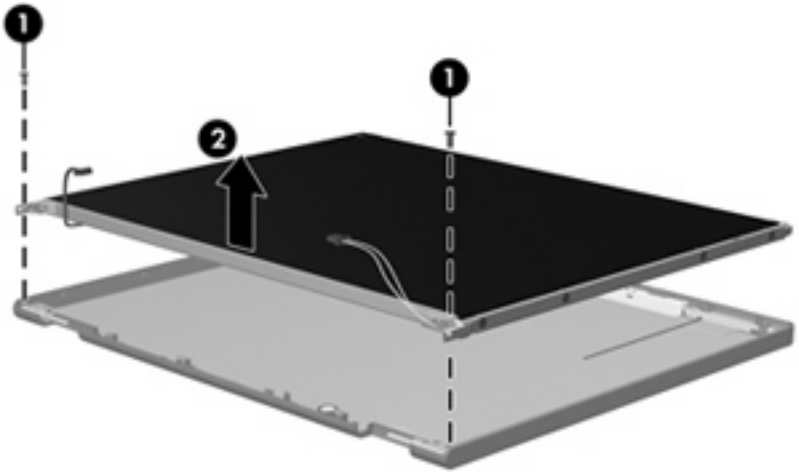
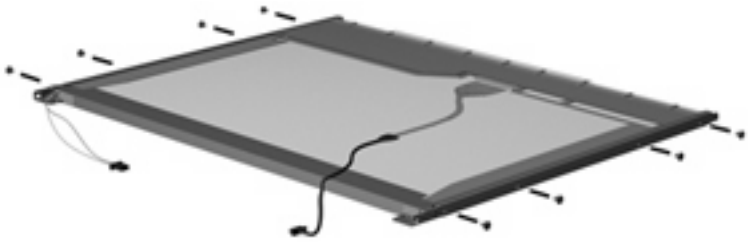
4. Disconnect all display panel cables **(1)** from the display inverter and remove the inverter **(2)**.



5. Remove all screws **(1)** that secure the display panel assembly to the display enclosure.
6. Remove the display panel assembly **(2)** from the display enclosure.



7. Turn the display panel assembly upside down.
8. Remove all screws that secure the display panel frame to the display panel.



9. Use a sharp-edged tool to cut the tape **(1)** that secures the sides of the display panel to the display panel frame.

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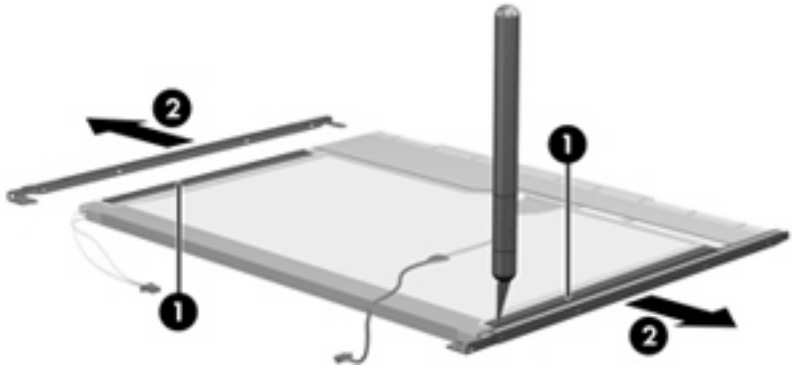
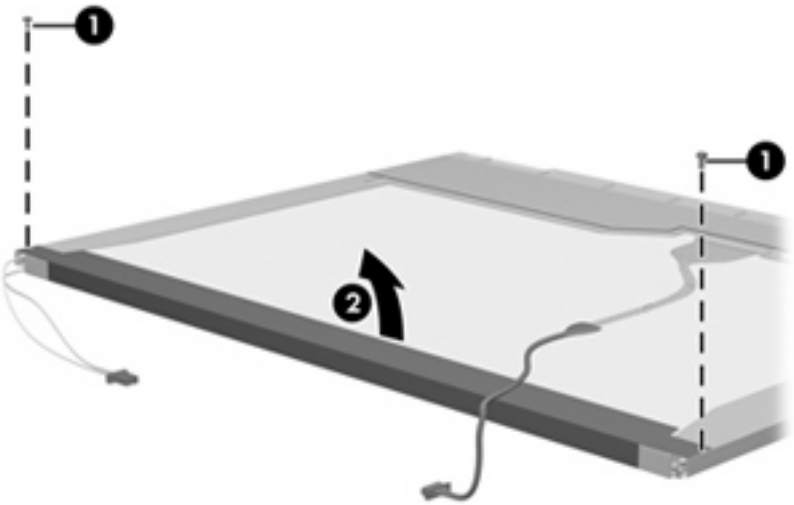
10. Remove the display panel frame **(2)** from the display panel.



11. Remove the screws **(1)** that secure the backlight cover to the display panel.
12. Lift the top edge of the backlight cover **(2)** and swing it outward.



13. Remove the backlight cover.
14. Turn the display panel right-side up.

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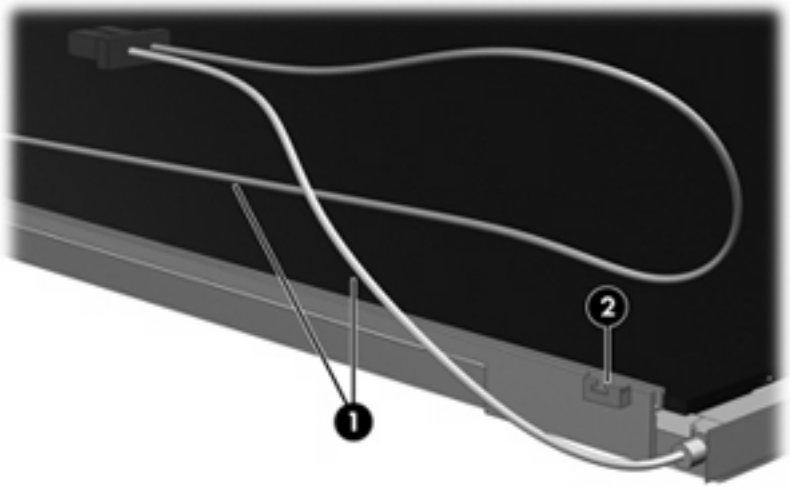
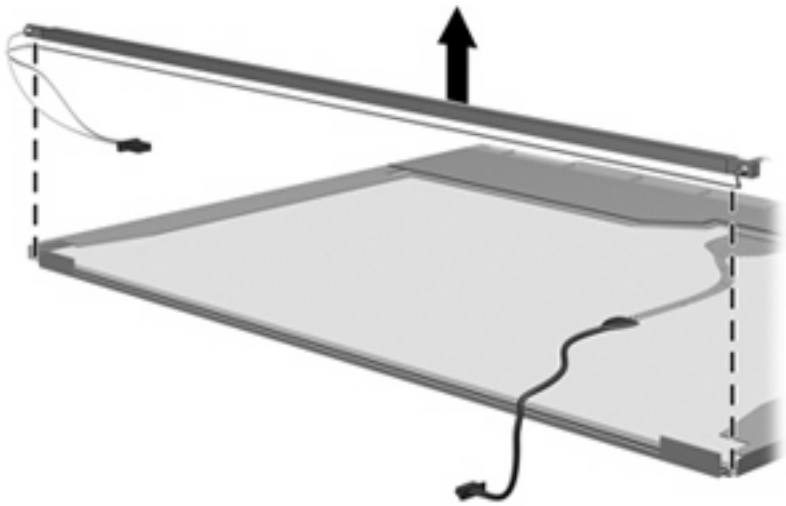
15. Remove the backlight cables **(1)** from the clip **(2)** in the display panel.



16. Turn the display panel upside down.

17. Remove the backlight frame from the display panel.



⚠ **WARNING!** The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

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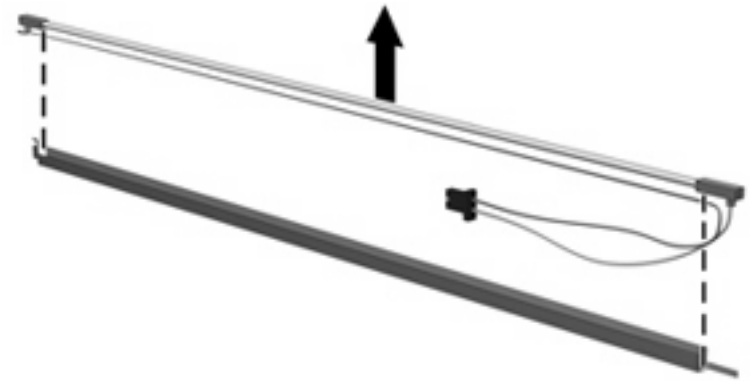
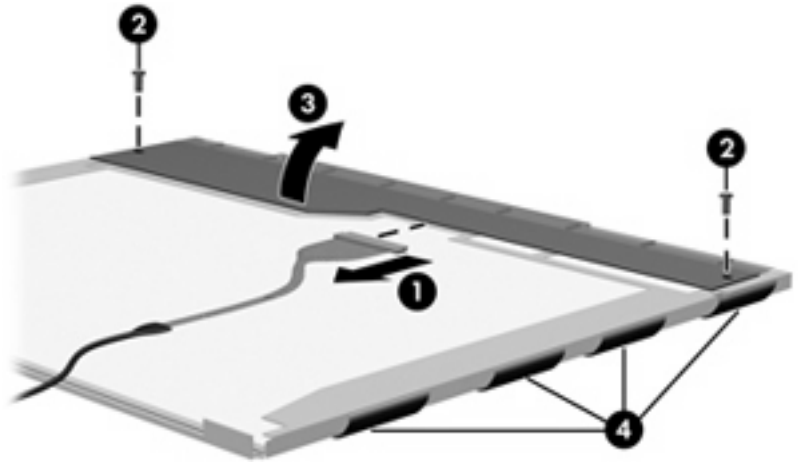
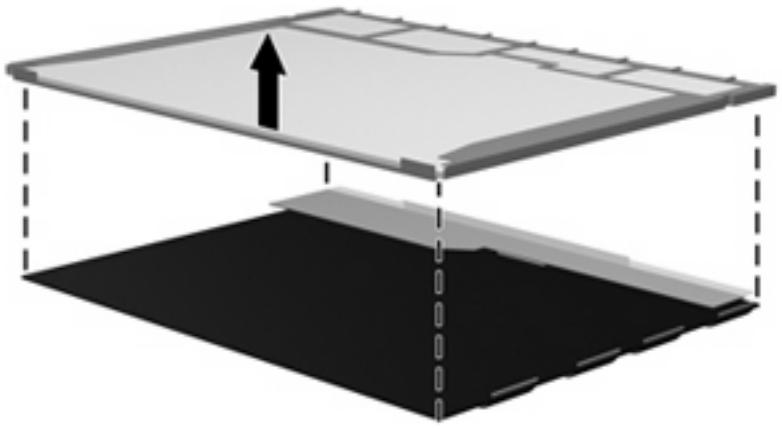
18. Remove the backlight from the backlight frame.



19. Disconnect the display cable **(1)** from the LCD panel.
20. Remove the screws **(2)** that secure the LCD panel to the display rear panel.
21. Release the LCD panel **(3)** from the display rear panel.
22. Release the tape **(4)** that secures the LCD panel to the display rear panel.



23. Remove the LCD panel.



24. Recycle the LCD panel and backlight.

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